

Nenah Sylver, PhD

The Rife Handbook **of Frequency Therapy** **and Holistic Health**

*an integrated approach
for cancer and other diseases*

**UPDATED
EXPANDED
5TH
EDITION**

*second
printing*

Praise for *The Rife Handbook*

Natural therapies and healing have been ridiculed as quackery by the medical-pharmaceutical complex for a century. Yet consumers spend thirty billion out-of-pocket dollars a year on alternative therapies. Why? Not because people are gullible, but because many of these modalities work. Holistic health is complex. It addresses the entire body, all one hundred trillion cells. Supported by abundant research, Nenah Sylver does an amazing job explaining the plethora of options, techniques and technologies that will help readers make informed decisions about how to naturally support their health and innate healing power. Simply put, *The Rife Handbook* is an encyclopedia of holistic health. It's so comprehensive, it's mind boggling. This stellar body of work belongs in every household as well as every practitioner's office.

—Bernard Straile, DC
author of *One Thousand Shades of Pink*
and developer of the IMAET quantum energy wellness equipment

This book is incredibly well written and comprehensive, relevant to students and practitioners alike. Covering an array of topics in medicine and holistic health, it comes at a most crucial time in the burgeoning field of alternative and complementary health care. Having read scores of books on electromedicine, I count this book as my number one reference on the topic. I only wish I had the knowledge presented in these pages many years ago. As a scientist with over forty years of clinical and academic experience, I am mesmerized by Nenah Sylver's quality of writing and knowledge. She explains the most difficult topics clearly so anyone can understand and benefit from what she has to offer. Dr. Sylver is sure to inspire and educate those fortunate enough to hold a copy of her book in their hands. Without question, she will be included as one of the great minds of the 21st century. It is with great pride and honor that I recommend *The Rife Handbook* without hesitation to all physicians and students in the health field.

—John A. Amaro, PhD, DC, LAc, Dipl Med Ac
past president, International Academy of Medical Acupuncture
and developer, Electro Meridian Imaging (EMI)[™] acupuncture diagnostic instrument

In this 5th edition of *The Rife Handbook of Frequency Therapy and Holistic Health*—the definitive work on Rife, resonant frequency, pulsed energies, and related technologies for therapeutic use—Nenah Sylver has set an even higher bar of excellence. She has conveyed so much new and important information in an even more organized and cohesive manner, that this edition is a “must have” even if you enjoyed the previous volume.

Dr. Sylver's unique ability to translate complex information into accessible content, suitable for health professionals and laypersons alike, leave most hard-core technical persons (like myself) in total awe. Her attention to accurate historical detail as opposed to myth, and inclusion of new, cutting-edge complementary healing modalities, allows readers to strategize a practical and effective approach for their often serious health issues. This latest edition empowers the reader by providing a wealth of knowledge compiled, sorted, and refined over the last decade. It offers information that few have time to research for themselves when their health requires it the most. This book is an incredibly valuable resource that everyone needs. If you have but a single reference in your library on the science and practice of these technologies and therapies, *The Rife Handbook* should definitely be the one!

—Jimmie Holman
co-founder, Pulsed Technologies Research (USA)
and Bioenergetics & Pulsed Technologies (EU)

Traditional medicine, with its faulty paradigm and obsolete Neanderthal protocols, is already in a state of decline. In its wake, Integrative Medicine has begun to fill the void with bio-mechanical therapies, electromedicine, and more natural remedies to heal. Keeping up with the many advances is a monumental task.

The previous edition was a first-rate, comprehensive, extremely well organized and documented manual to help laypersons and physicians better understand the concepts of vibrational medicine and the power of complementary health protocols. As an author, researcher and international lecturer with over forty years of clinical experience, I was literally blown away by that masterpiece and gave it a definitive five-star rating. This revised 5th edition of *The Rife Handbook of Frequency Therapy and Holistic Health* is a perfect example of intelligent evolution. Dr. Nenah Sylver has compiled an even more comprehensive holistic bible. In an improved format, it provides frequencies to treat new diseases, plus expanded sections on the politics of medicine and vaccines, more breakthrough complementary therapies, historical electromedicine references, and other topics to help one survive the pitfalls of modern medicine. It's a must for everyone's reference library.

—Gerald H. Smith, DDS, DNM
past president, Holistic Dental Association

Dr. Nenah Sylver has brought together the sciences of bioelectronics and naturopathic health care in a truly integrated approach. *The Rife Handbook* is the bible of holistic medicine for the 21st century.

—Brian McInturff
creator of the Consolidated Annotated Frequency List (CAFL),
www.electroherbalism.com

Dr. Nenah Sylver has gifted humanity with a magnificent, comprehensive, thoroughly researched guide to holistic health as well as the science and application of the work of a great medical pioneer, Royal Raymond Rife. This book will help physicians expand their base of practical and theoretical knowledge. I highly recommend it for any clinical practice utilizing complementary and energy medicine therapies.

—Robert S. Ivker, DO
co-founder and past president, American Board of Integrative Holistic Medicine (ABIHM)
and author of Sinus Survival

At a time when health conscious individuals are concerned about drug-resistant infectious diseases, the government's push for mass inoculations, the over-medication of children, bioterrorism, and negative effects of vaccines and drugs, along comes a well researched, easy-to-read treatise that revives non-invasive and effective frequency therapy. *The Rife Handbook* is sophisticated enough for the seasoned health professional, yet thorough and understandable enough for the novice. This book does more than discuss the genius of Royal Raymond Rife; it superbly explains holistic approaches to treating disease. Even if the reader does not (yet) own a frequency device, this book is one of the best primers I have ever seen on holistic health. Anyone interested in alternative healing protocols must have this book.

—Rose Marie Williams, MA
Townsend Letter columnist, and natural health and environmental advocate

This 5th edition of *The Rife Handbook* is huge. Our definition of “handbook” must expand to include the book’s thousand-odd pages—making it a little unwieldy in the field, but absolutely worth keeping at the desk. It’s enormous in scope, but Nenah Sylver eases us into the text by explaining, in the Introduction, the premise under which she operates: “It became clear to me that I couldn’t just create a list of numbers [frequency settings] to go with the equipment . . . it wasn’t enough to receive frequency sessions; [people] had to actively eliminate the conditions that had allowed their illness to occur in the first place.” The end result is truly a comprehensive volume of healing.

Healing invariably makes us think of germs. But as Dr. Sylver writes, “As long as we perceive ourselves as helpless victims of germs, we’ll continue to rely on pharmaceuticals to help us get well.” A famous senior executive at GlaxoSmithKline (whom she quotes) once publicly admitted that over 90% of pharmaceuticals are only about 30%–50% effective (depending on the genetics of the person to whom they are administered). Dr. Sylver discusses the effectiveness and toxic effects of pharmaceuticals in depth. The political aspect of both pharmaceutical drugs and their marketing is also discussed and referenced extensively. The section on vaccination is to be particularly noted—the history, politics, science, and their incorporation into our own genetic material (a sort of biologic gene editing phenomenon). And that is only Chapter 1.

Other highlights made a particular impression as well. Dr. Sylver discusses the inventions of Royal Rife and the discoveries of other healers in this field of holistic medicine. The entire history, as recounted in this book, is sordid, and reflects very poorly on the medical establishment, including the American Medical Association. We are given a multitude of choices for healthy living—with the caveat that “one size fits all” does not work for either bathrobes or diets. I was especially drawn to the section on gratitude, toward both the animals and plants that provide us with our food. The Brix measurement of plant vitality was a brand new one to me. High Brix means more nourishment, and is measured by placing a drop of plant juice on a device called a refractometer and seeing how much the light is bent as it passes through the prism. There is also a very interesting discussion of wheat, and how it has become modified from the original 14-chromosome gluten-poor grain to the current 42-chromosome gluten-rich grain associated with multiple forms of illness known as “gluten intolerance.”

One of the appendices gives an excellent discussion of various electromagnetic frequency devices and magnetic therapy in general. Another appendix satisfies the research junkies among us, a list of published papers and books on electromedicine dating back to 1877. Plus, there are still all the chapter references, almost five hundred for Chapter 1 alone. Appendix E gives a tantalizing glimpse of current research on frequency treatment of cancer cells *in vitro*. And Appendix F lists commonly used chemicals, almost all of which are toxic to human life. There is so much more to this book that you need to read it for yourself and decide what your favorite portions are.

If you want to learn about Rife therapy or the context in which it is best used, this book is an excellent place to start. It is also an invaluable reference manual for complementary therapies and holistic living in general. The writing is superb. The information is well researched, logically presented, and accurate. “We cannot die in peace without living in love,” writes Nenah Sylver. The overall impression this book leaves is one of light and healing.

I am beyond impressed.

—Martha M. Grout, MD, MD(H)
Arizona Center for Advanced Medicine
Scottsdale, Arizona

Royal Rife developed equipment to apply frequencies. Since that time, various types of effective frequency devices have been produced. Hundreds of cancer patients have recovered without the benefit of surgery, chemotherapy, or radiation. Lyme disease, Multiple Sclerosis, rheumatoid arthritis, and many other conditions have yielded to frequency therapies. Non-professionals have produced many of these results. I have had the privilege of watching many people self-treat and enjoy improvements in their health.

An attorney with an autistic son reported that her child seldom slept more than three hours at a time; he would wake up in pain. The two of them were getting six hours or less of sleep a night. After the mother gave the boy one frequency session, he started sleeping consistently for ten hours, and his behavior improved. A prostate cancer patient had difficulty urinating and tried frequency therapy. Five days later, the urine flow was normal. A leukemia patient had a white blood cell count of 250,000. He decided to use frequencies that other leukemia patients had found useful. After six weeks, his white blood cell count was down to 16,000. A patient with pulmonary fibrosis made crinkling sounds in his lungs as he breathed. He was told that his prognosis was hopeless, that his oxygen saturation would continue to decrease until not even inhaling oxygen would keep him alive. After frequency therapy he coughed up a lot of material, after which his lung sounds and oxygen saturation returned to normal. Several people with degenerative hip conditions have used frequency therapies. So far, all have recovered. It appears that when the infections in the joints are removed, the body is able to repair the damage. And yet, most physicians have never heard of Rife's work.

The Rife Handbook of Frequency Therapy is a book that doctors and their patients can use to learn about this safe, effective and non-toxic therapy for cancer and so many other conditions. Dr. Sylver presents a fascinating account of the life of Dr. Rife and his accomplishments. She describes how his discoveries were, and continue to be, ignored or opposed. She explains why you may not get the best available care when you seek medical help. She covers in detail helpful steps to take in moving toward wellness, including how to get quality water and how to detoxify the body. She covers what you need to know to conduct a frequency therapy session. She lists a large number of conditions with appropriate frequencies. And she offers a wide range of complementary therapies that are natural, effective, and easy to use for a wide variety of ailments. Dr. Sylver has spent years studying how people get sick and how they can get well. She presents a wealth of valuable material that will be beneficial to all kinds of practitioners including doctors, and to those on the road to recovering their own health.

—Richard Loyd, PhD
practitioner, *Health Balances*
Graham, Washington, United States
and coordinator of the Rife International Health Conference, www.RifeConference.com

Nenah Sylver's direct style is a prophetic voice for the medicine of the future. She provides a well-organized history of Rife's work and a seminal guidebook for the modern application of his discoveries. This significant volume will encourage lively and informed discussion regarding the implications of bio-electromagnetic energies for human wellness.

—Joel P. Carmichael, DC, DACBSP
president, *North American Academy of Energy Medicine*
author of *What Should I Eat? A Food-Endowed Prescription For Well Being, 2nd Edition*
and *Nutrition For Endurance: Finding Another Gear*

Dr. Nenah Sylver's 2001 edition offered an impressive collection of long-suppressed information to help people break away from the self-serving deceptions employed by conventional allopathic medical care and the pharmaceutical industry. With this new volume, Dr. Sylver demonstrates her mastery of this complicated field with massive amounts of hands-on information that you must learn if you are to finally be well. She courageously demonstrates how each of us has the power to take charge of our own lives and create our own wellness protocols, without abdicating responsibility to anyone else. *The Rife Handbook* is destined to become the definitive reference on attaining self-directed, holistic health.

—S. Nathan Berger, DDS, PC
Rife researcher and biological dentist

It doesn't happen very often, but occasionally I read a massive book on natural health and healing that just plain blows me away. Dr. Nenah Sylver's huge and impressive *Rife Handbook* is more than merely the best and most complete compendium on frequency healing that I've ever seen. In addition to a massive cross-referenced frequency directory for most human ailments, this wonderful book also features detailed, helpful, and groundbreaking information on complementary therapies—and much, much more.

—Chet Day
Health & Beyond Online, www.chetday.com

As an AAMA Board Certified Alternative Medicine Practitioner, I have many fine modalities from which to choose. I recently experienced a health issue that failed to be helped by either conventional allopathic medicine or even alternative medicine treatments. However, after a Rife frequency square wave treatment protocol was applied, this health issue was completely resolved.

Rife technology, until now, has been largely questioned by both alternative medicine and allopathic practitioners for efficacy and disease resolution. But *The Rife Handbook* will dispel your doubts. It is the recommended work for practitioners who need to understand how and why this therapy works, and who want to utilize frequency therapies in conjunction with current preferred interventions to help their patients heal. Nenah Sylver's definitive interpretation of frequency therapy identifies applications, indications, contraindications, safety, and specific treatments along with directions specifying "how, when, and what frequency" for therapy sessions. The detail with which the author examines treatment modalities is remarkable; she presents a variety of protocols to resolve most health issues. It is rare that I read another's views of various alternative medicine therapies that exude such succinct clarity and comprehension as hers. Dr. Sylver has a remarkable grasp of what works, how it works, and on whom it may be effective.

This well-referenced treatise provides treatment options when progress falls short, or when there appears to be an impassable plateau in the way of optimal recovery.

—Bill Misner, MS, PhD
AAMA Board Certified Alternative Medicine Practitioner

When Nenah Sylver published the first edition of *The Rife Handbook* in 2002, it received excellent reviews as the best book in the field. This new version is substantially updated and improved, reflecting many of the advances in frequency therapies that have occurred in over a decade. Frequency therapy, properly applied, may well replace every other modality. Frequencies can alter DNA, kill or enhance cells, affect all chemical interactions, break up toxic substances and cause them to be eliminated from the body, kill pathogens that disrupt bodily function, and enhance and stimulate all cells and organ systems to higher levels of performance.

There are superbugs and bioengineered diseases out there that might make it to your neighborhood. Will your local medical clinic help you when thousands of people are dying from a strange disease? Don't count on it! If you want to live long and prosper, learn about frequency therapy. Dr. Sylver spends a lot of time in her book to help you use frequencies safely. Even if you just want to make life a little better for your family and friends, you will want to read *The Rife Handbook*.

—Jeff Sutherland, PhD
co-principle investigator of research grants, National Cancer Institute
assistant professor, Department of Radiology, University of Colorado School of Medicine
co-founder, Center for Vitamins and Cancer Research
Frequency Foundation, Boston, Massachusetts, United States

We work in the area of complementary and holistic cancer healing education and recommend Rife therapy to all our clients. *The Rife Handbook* is a bible in our office, an invaluable tool toward the healing of dozens of cancer victors. Nenah Sylver's research is thorough and detailed. The book sits on a prominent place on my shelf next to every frequently used manual in my practice.

—Ellyn Hilliard, CNC, PhD
former co-owner of Twelve Ways Healing Center in Colorado, US
and author of *Cancer Healing Victories*

Royal Raymond Rife discovered one of the most groundbreaking medical tools of the last hundred years. Due to political and financial interests, his discoveries were driven underground. But today, people suffering from cancer and other diseases can base their treatment on authentic science instead of politics. A scientist in the true definition of the word, Dr. Sylver methodically guides readers through Rife's life and achievements, with a history of the technology and the scientific foundation for its use. She also provides practical tips that can be easily integrated into a comprehensive protocol for a wide variety of health conditions. Nenah Sylver is the "researcher's researcher"; I habitually turn to her work as a trusted reference. I recommend *The Rife Handbook* without reservation to every health seeker, patient, physician, and scientist who values objectivity and innovation in medicine and wants guidance on complementary healing modalities.

—Bryan Rosner
author of *Lyme Disease and Rife Machines*,
The Top 10 Lyme Disease Treatments,
and *Freedom From Lyme Disease*

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Updated and Expanded 5th Edition

second printing

Nenah Sylver, PhD

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The Rife Handbook of Frequency Therapy and Holistic Health: an integrated approach for cancer and other diseases.
Updated and Expanded 5th Edition

The first softcover edition of this book (with a different title) was published in 2001 by The Center for Frequency. Two larger, revised hardcover editions, almost identical, containing substantially new material, improved organization and an index, were published in 2009 and 2011 by Desert Gate Productions LLC. An updated and expanded 5th edition (with 1104 pages, almost 400 more pages than the 2011 volume) was published in 2018 by Desert Gate Productions LLC. In this second printing of *The Rife Handbook 5th Edition*, copyright 2021, a few errors have been corrected and some updates and newer material have been added to the text. The page count remains the same.

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Cover design by Duane Burchett and Nenah Sylver.
Index by Nenah Sylver.

Cover Images, Back.

Top: Bipolar nerve cell, as seen through the Ergonom microscope.

Middle: Cross section of a bone 3.5 mm thick, as seen through the Ergonom microscope.

Bottom: Cell division, as seen through the Ergonom microscope.

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This book is dedicated

to all peoples everywhere—

black
brown
red
white
yellow

who seek
clean food
pure water
dependable shelter
right livelihood
and radiant health

who want to be
acknowledged in community
respected for their humanity
and honored for their divinity.

May they find the
dignity
joy
peace
and love

that is their birthright

and may they always have
freedom
to choose the course of their own lives.

Disclaimer

The information given in this *Handbook* is for educational, informational, and investigational purposes only. It is not to be construed as diagnosis of disease, treatment of disease, prevention of disease, or as a replacement for consulting a qualified medical practitioner.

Be careful when investigating this technology! Protocols may need to be modified, or used with only certain types of equipment and not others—or this technology may be contraindicated entirely—if you have a heart condition, are wearing a pacemaker or autodefibrillator, are pregnant, are nursing, have blood clots, are taking strong medications such as chemo, are taking herbal or nutritional supplements, have a medical need to suppress your immune function (such as organ transplant recipients who are taking immunosuppressive

drugs), are wearing metal implants or stents, have breast implants, are especially sensitive to radio frequency (RF) or other electromagnetic radiation, or have especially sluggish detox/eliminative functions (liver, colon, kidneys, and lymph system). Before using any equipment, and to see if you should even be experimenting with this technology, please read the beginning of Chapter 4, which explains these circumstances and the precautions to take. The author, publisher, distributors, and sellers of this book are not responsible or liable for the results of your experimentation with Rife Therapy or your use of any other protocols described in this book. The reader accepts full responsibility for any and all consequences of trying or using these modalities. *If you have a medical condition, see a qualified health professional of your choice.*

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Detailed chapter outlines, containing up to four levels of headings and subheadings exactly as they appear in the text, are at the beginning of each individual chapter.



San Diego Historical Society

Royal Raymond Rife with one of his microscopes, 1929.

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Acknowledgments

This book would never have been written without the pioneering discoveries and great personal sacrifices of Royal Raymond Rife. Likewise, I am indebted to the archivists, electronics engineers, microscopists, medical researchers, and others who came after Rife and continue to contribute to and refine the growing field of frequency therapies. This *Rife Handbook* is not intended to supplant anyone's research, discoveries, or devices. Rather, it is meant to guide you through Rife's healing modality that has reemerged and been updated, after being suppressed for over half a century. This book is also intended to provide you with a solid introduction to natural health so you can utilize this versatile frequency therapy to its best advantage.

Throughout the years, as this book has grown in size and detail, more people have critiqued it, adding to the complexity of its contents. There are many researchers in the Rife Therapy field who deserve to be acknowledged for their efforts to promote this drug-free, non-invasive modality, although not all are in the public eye (or want to be). Of those who can be named, I thank Brian McInturff for his early Consolidated Annotated Frequency List and continuing contributions to the Rife community; Jeff Sutherland, PhD, for his eclectic approach and assistance to me in the early years of this manuscript; and Jeff Garff, Shawn Montgomery, Jason Ringas, and Stanley Truman for allowing me to use documents and photos from their archives. I also thank Dave Felt, who spent many hours

patiently answering my questions and explaining technical issues (particularly as they pertained to engineering); and Marty Monahan, DC, NMD, who kindly gave me some additional frequencies he has used successfully in his clinical practice. Edna Tunney and her staff at Resonant Light Technology Inc. also have my thanks for giving me the kindest, most polite encouragement as only Canadians can. And I appreciate Bryan Rosner for his unique insights on protocols that help eliminate Lyme disease, as well as for his enthusiastic support.

There are some very special people in the forefront of the Rife community that I want to tell you about. Peter Walker, founder of the decades-old organization Rife Research, Europe and the Rife Forum (rifeforum.com)—and who then began hosting dozens of other types of health-related groups—has been instrumental in helping to keep the Rife community afloat and active, for which the world owes him a huge debt of gratitude. Over the years, Peter has graciously provided me with information and much practical assistance in many areas. I continue to be thankful for his dedication and efforts.

Another multitasking individual is Rife researcher, musician, mathematician, and historian Charlene Boehm. With her incisive mind for details and dedication to ethics and accuracy, Char would always make time to explain technical information. She also reviewed my history of Royal Rife and corrected a few errors—some of which had already been widely disseminated for years on the

Internet and on the printed page, and then unfortunately made their appearance in previous printings of this book.

Richard Loyd, PhD, is an exceptionally kind and caring researcher and practitioner. Dr. Loyd has generously shared his extensive knowledge of frequencies, his clinical findings, and many wonderful articles on electronics and nutrition. He has also freely and humbly acknowledged what has not worked, reminding me that sometimes, we learn from our mistakes even more than our successes.

Jimmie Holman of Pulsed Technologies is another person I have been honored to call a friend. Over the course of five editions of this book, this brilliant scientist has also functioned as a mentor. I will always treasure his willingness to share his innovative research, accompanied by a generous dose of patience as I sometimes struggled to understand what I was being taught.

Finally, I want to mention the late Steve Haltiwanger, MD, CCN. Steve possessed a giant intellect and encyclopedic knowledge, which he used in his many professional capacities to help countless health seekers. However, what I will equally remember him for is his kind and generous heart, which is what impelled him to so freely share what he knew with whoever wanted to learn. My many hours of discussion with Steve inspired me to include some important material in this book. Steve passed away after the 5th Edition was published but before this second printing was released. I will miss him.

On the practical side, some of the organizing assistance for past versions of Chapter 5, provided by Linda Thieman, MA, were retained for this current edition. Ann Rogers and Ron Strauss, who provided the index for earlier editions, laid the foundation for my indexing of this current volume. Duane Burchett, with good-natured patience, provided many versions of this new cover until I was satisfied.

Rife therapy should be administered holistically, as part of an overall wellness protocol. Therefore, this book addresses many complementary modalities. A project of this scope and depth could not have been completed without input from health professionals and educated laypersons versed in acupuncture, biology, chemistry, chiropractic, herbology, massage therapy, physics, and even law. There are too many people to name who provided input for both past and current editions. I trust that you all know who you are and will accept my thanks.

In the personal arena, I am blessed by two wonderful people who have become my family and constantly show me that our companions in life can help us work miracles and weather any storms, no matter how bleak life may appear. Throughout the decades that I labored on all

versions of this book, Paul Silverfox helped with countless everyday tasks so that I could spend uninterrupted hours writing. He reviewed all of the previous editions as well as this current one, remaining cheerful no matter how many rewrites I asked him to critique. From his perspective as a licensed massage therapist, he offered sage advice on many topics concerning health and gave me encouragement whenever I needed it. I will always treasure his friendship, support, wisdom, and common sense. For the 5th Edition and this second printing of the 5th Edition, James Dutcher provided enthusiastic and loving encouragement as well as highly personalized computer and software support. He upgraded, debugged, and repaired my computer—day or night, whenever it was needed. Most importantly, he spent many hours helping me navigate a frustrating and complicated software program for professional publishing. Doing my own manuscript layout was not only exhilarating and empowering, it immeasurably influenced my writing. I cannot emphasize enough how formatting this book myself allowed me to include more, essential, and timely information, organized in a way that makes complex data easier to absorb. In a sense, this book has been created for you by three people. I could never have written it without Paul and James. Having loving friends and comrades in life makes even gargantuan tasks manageable.

There are many others I want to acknowledge, even though I'll never meet them face-to-face. First are the thousands of people who, over the course of two decades, telephoned or emailed me about their health concerns. Their questions propelled me to search for answers, and because of that search I was able to write a better book. I also want to acknowledge members of the Internet health group community, people from all over the world who shared their very personal stories about how they were helped by frequency therapies and other complementary modalities. I found these accounts informative, inspiring, and often moving. Finally, I want to acknowledge those who sent me personal emails thanking me for writing this book and helping to make the quality of their lives better—and in some instances, for saving their lives. Whether or not I truly can (or should) accept credit for that feat, such comments literally take my breath away. When I receive such heartfelt missives, I know that I have succeeded in doing the job I'm supposed to be doing.

There is one more person I want to sincerely thank: you, the reader. Your courage to question the status quo, your desire to learn new ways of healing, and your willingness to take responsibility for your health, are a testimony to what holistic medicine is all about. It is in service to you that I have written *The Rife Handbook*.



Foreword by Steve Haltiwanger, MD, CCN

Medicine is a cult. Just as religion has its catechism, medicine has a set of credos based on faith. The faith says that if you take a pharmaceutical, it will fix everything. But this is a delusion. Pharmaceuticals do not heal. In order for true healing to take place, you need raw materials: amino acids, fatty acids, minerals, vitamins. Otherwise, cells do not work, tissue cannot be restored, and symptoms will not abate. They will not ever abate, not unless the body is given the chance to fix itself. Therefore it is my great pleasure and honor to be asked to write a foreword for this new edition of *The Rife Handbook*. It does not ask that you accept what is written on faith. You are presented with some solid science that organized medicine denies, the self-serving political agenda that organized medicine tries to cover up, and the contradictions in logic that organized medicine tries to pretend do not exist. And then it is up to you to decide what to do about your health.

I met Nenah Sylver at a scientific conference many years ago, and she and I stayed in constant contact thereafter. I found her to be a compassionate individual and a good friend. Nenah is not only an outstanding writer and the author of the best electromagnetic medicine book currently on the market, she is also a multi-talented musician and songwriter. A person of depth, she has lived an interesting life. She has always collected and surrounded herself with individuals who are curious and expansive in their vision. Not surprisingly, she gathers and assembles information the same way. She does extensive research, so her readers can be satisfied that

the information she has collated has been checked. She asks the same question, of several people, until she is satisfied with the answer. In her investigations into new developments in the scientific community, Nenah is in regular communication with innovators. This includes manufacturers of electromagnetic medicine equipment. Then she assembles a voluminous amount of information, and somehow it all neatly fits together into a book.

While this book has “Rife” in the title, it is a much broader review of multiple technologies that can be used to promote health. I ought to know. I have lectured for thirty-three years in seventeen countries on topics involving electromagnetic biology, infrared therapies, PEMF therapies, psychiatry, and nutritional treatments of neurological conditions. Over the last twenty-two years, I have participated in seventy-two research studies focused on the use of PEMF devices, microcurrent treatments, infrared therapies, photobiomodulation, nutritional supplementation, and laboratory analysis of human chemistry. I have formulated numerous nutritional supplements and I’m a consultant to several companies in the medical field. With my background and experience, I am pleased to say that this book is an invaluable contribution to the holistic and alternative medical fields. It is documented and sophisticated enough for the professional, and accessible enough for the layman.

With information expanding at a geometric pace, it is impossible to keep current with all the equipment that is being invented and produced. It is also difficult to keep

current with all the advances in complementary medicine. Therefore, although this is called a “handbook,” a better name might be “the bible of electromagnetic devices and complementary medicine made accessible to everyone.” My one complaint is that I don’t have enough time and money to buy and try all the technology described in this book.

This book is not the type that you usually read cover to cover. Instead, it is like an encyclopedia in which you search out specific topics that you have an interest in exploring. As you look through this book, you’ll discover how the properties of electricity, magnetism, light, and sound can be utilized by devices to affect and regenerate the human body. You’ll also learn about more complementary therapies than you possibly have time for. While these therapies reinforce the benefits of having an electromagnetic medical device, if you don’t own a piece of equipment just yet, the therapies can do a pretty good job on their own. In fact, the therapies are critical to becoming well and staying well.

Having had the pleasure of reading prior versions of this book, I am happy to report that this current version has vastly improved, like fine wine that gets better with age. This 5th edition has been expanded by over three hundred carefully documented pages. *The Rife Handbook* is an invaluable resource, not only for scientists and health professionals, but also for individuals who want to know more about technologies and adjunctive health therapies. I urge you to use this book as a guide and as a reference. Savor it.

—Steve Haltiwanger, MD, CCN

lecturer, researcher, psychiatric consultant, and
consultant in Rife Therapy,
electromedicine, and nutrition

medical director and consultant for many
international nutrition corporations

former medical director,
Emmanuel Center for Health

author of dozens of research papers, including
“The Electrical Properties of Cancer Cells”

co-author of the book *The Electric Human*
(pulsedtechresearch.com)

MILBANK JOHNSON, M. D.
PACIFIC MUTUAL LIFE BLDG.
LOS ANGELES, CALIFORNIA

November 9, 1931

My dear Mr. Rife:

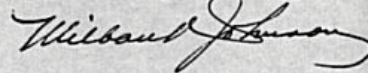
In the name of the other three gentlemen and myself I want to thank you for your most courteous reception and for giving us an opportunity to have a glance of your wonderful microscope. I want to say to you that we all spent one of the most instructive and interesting afternoons of our lives in your laboratory.

Upon returning to San Diego that evening I wired to Dr. Arthur I. Kendall of Chicago and gave him a brief description of what we had seen and our opinion of it, and upon my return to Pasadena this morning I received the following telegram from Dr. Kendall - "Expect to start for California Saturday night. Letter follows".

If he comes straight through, which I think he will, he will arrive in Pasadena on Tuesday, November 17 so be sure and have your microscope in perfect condition for the Big Chief when he arrives. I will bring him down to San Diego in my car at which time you and Dr. Kendall can make such arrangements as you desire.

Thanking you again for your courtesy, I am

Yours very sincerely,



Mr. Roy Rife
2500 Chatsworth Bldg.
San Diego, Calif.

600 BURLINGHAM DRIVE
SAN RAFAEL HEIGHTS
PASADENA

*Letter from Dr. Milbank Johnson to Royal Raymond Rife, November 9, 1931.
Milbank Johnson became one of Rife's most enthusiastic supporters and a trusted benefactor.*



Royal Raymond Rife and Mamie Ah Quin Rife.

Courtesy of Jeff Garff



Introduction

Imagine what your life would be like if you could eliminate ill health in as little as one day for something mild (like the common cold), or in several months to a year, maximum, for a more serious illness (like cancer). To do this, you would need three things: a protocol to strengthen your system so that it's no longer a breeding ground for pathogens, a frequency device, and a list of frequencies to go with the device. You would not need toxic drugs or invasive surgery, you would not incur unfairly high medical bills, and you would not have to depend on doctors for long periods of time. This protocol is called Rife Therapy, named after its inventor Royal Raymond Rife.

American scientist Royal Rife, and his remarkable technology that has helped thousands overcome life-threatening diseases, is finally becoming more public after decades of suppression. As incredible as it sounds, though, the knowledge that specific frequencies destroy pathogens is not new. Royal Rife began his career as an inventor almost a century ago.

It all started with one of Rife's key inventions, a most unusual microscope. In those days, the magnifying power of existing microscopes was poor. Individual viruses, and even some bacteria, could not be seen because they were too small. Determined to view them, Rife built his highly acclaimed Universal Microscope. Many times more powerful than other magnifying instruments, the microscope made specimens visible without killing them. This feat was beyond the capacity of even an electron

microscope, which makes pathogens visible by bombarding them with electrons in a vacuum, thus destroying them.

Rife had a good reason for wanting to see specimens in their natural live state. If you want to discover how to kill a microorganism, you need to know how it reacts to its environment. Once Rife could observe the activities and responses of living microorganisms, he could devise a method to destroy them. Hence, the Rife Ray was born.

Rife's strategy of destroying microorganisms was based on the principle of resonance. Every living organism has a resonant frequency, or intrinsic radiation signature. The cliché of the soprano who shatters a glass with her single, pure, focused tone is (for now) an adequate working metaphor for how Rife's electronic device worked. The various frequencies it emitted, via an electromagnetic field, corresponded to the resonance of different pathogens and therefore disabled them. Once they were no longer viable, the body's immune cells could eliminate them.

Tests were successfully conducted on thousands of infected animals. Many of the most prestigious doctors and pathologists in the US, impressed with the initial results, supported Rife in several ways. They gave him money, worked with him in his laboratory, substantiated his findings, and used the Rife Ray in their US and overseas clinics. Some doctors even sent Rife notarized affidavits affirming the effectiveness of the treatments. Accounts of Rife's microscope and ray machine were published in newspapers, journals, and medical bulletins across the United States.

Ironically, Rife's treatments may have been too successful. The medical-pharmaceutical industry, foreseeing a massive loss in profits from drugs and surgeries, appointed some very vocal opponents—none of whom, it should be pointed out, tested the machine. The physicians and financial backers who had been Rife's colleagues and friends became targets of character assassination. Medical boards threatened to revoke the licenses of doctors who used the Rife Ray unless they relinquished their equipment. Some of Rife's closest collaborators later denied even knowing him, despite the existence of a widely circulated photograph in which they appeared with him at a banquet in his honor. Articles on Rife and his inventions began disappearing from newspaper archives. The greed and callousness of the wealthy powerful few deprived many sick people of healing and even cost them their lives. Vilified and discredited by the ignorant and greedy, his technology misunderstood and underutilized, Royal Raymond Rife died in 1971.

Rife's story, while unique in some ways, nonetheless follows a familiar pattern. First, a therapy is discovered that's non-invasive, inexpensive, and drug free. Next, after it makes large numbers of people well, its inventor, proponents and users are privately harassed, publicly humiliated, and legally persecuted. Perhaps they even die of mysterious causes or under suspicious circumstances. Finally, steeped in rumor and innuendo, the modality disappears. As with other promising complementary treatments, Rife's therapy was driven underground.

The long silence on Rife and his inventions was finally broken with Christopher Bird's article "What Has Become of the Rife Microscope?", which appeared in the March 1976 issue of *New Age Journal* and was later reprinted in other publications. Then in 1987, Barry Lynes published *The Cancer Cure That Worked*, an emotionally-charged glorification of Rife's life and work. However, original source material was scarce. Movie footage from 1936 showing Rife in his lab, and a few equally old photographs, provided the only visual clues about the equipment.

Gradually, other memorabilia surfaced: Rife's surviving lab notes, letters, telegrams, photographs and awards, all unearthed from different locations. One researcher spent hours rummaging through the morgue files of a California newspaper office to find decades-old news clippings. Another investigator spotted articles in obscure yellowing engineering journals. Still others uncovered documents in the attics and basements of people descended from Rife's colleagues and co-workers. One astonishing find was an old trunk full of reel-to-reel tapes, featuring discussions between Rife and his close colleagues. The tapes were transferred onto CDs and made available to the public.

Around 2005, a non-working Rife Ray was found in a museum and restored by a team of resourceful engineers. Shortly after, a US frequency equipment manufacturer acquired a box of priceless documents from a nurse who had once worked with Royal Rife's colleague John Marsh. This manufacturer was then given an old schematic of one of Rife's original units built in the 1930s. With the help of others—including an elderly engineer familiar with the tube technology of Rife's era—he deciphered the almost illegible drawing and reconstructed the model. Then an actual prototype of yet another model was discovered, and the Rife community was closer to understanding how Rife's technology worked. This knowledge was not merely academic. It could, and would, lead to the production of more effective modern units.

Also around this time, the most powerful of Rife's microscopes was resurrected: the Universal Microscope (after being stolen from Rife's lab decades earlier and then recovered). Kept safely in an undisclosed location, it underwent meticulous restoration by several key researchers until it was again taken. Predictably perhaps, the cloak-and-dagger antics of secrecy, theft, and duplicity that had plagued Royal Rife have continued today.

Fortunately, not everyone interested in Rife history wanted to hoard their treasures. Many documents, along with designs of Rife's original ray machine, were posted on the Internet. This global sharing has allowed Rife's diverse technologies to inspire progress in many fields of electromedicine today. Using the primary source materials as references, scientists, health practitioners, electronics engineers and curious laypeople are now experimenting with different types of machines as well as new frequencies. With a rapidly growing, fresh generation of wellness seekers demanding access to life-saving technology, a new era of frequency healing has been born.

Although frequency equipment has been substantially modified and redesigned since Rife's colleagues treated people in the 1930s, 40s and 50s, the basic principle of how the devices work—pathogen destruction through resonance—remains the same. There are now hundreds of companies, on every continent of the globe, selling frequency therapy units to address all types of diseases. Despite the intimidation tactics of the medical-pharmaceutical industry and some government agencies, more researchers are stepping forward to share what they know, via the printed page, radio, electronic media, and at conferences. In addition, medical clinics and formal and informal research centers are springing up all over the world: Australia, Mexico, Canada, the Netherlands, New Zealand, South Africa, Germany, Romania, and the United States, among other countries.



It was over 30 years ago—around 1983, long before the massive infusion of Rife-related artifacts—that I first heard about Rife’s technology. Cryptic fliers from companies specializing in unusual devices somehow found their way to me. From time to time, electronics buffs and complementary health practitioners would tell me about a device that emitted frequencies to reverse disease, but they were extremely vague in their accounts and couldn’t or wouldn’t elaborate. The couple of fliers that specifically addressed rife machines gave, for merchant contact information, addresses that were either in Mexico or for United States post office boxes, so I wasn’t sure if the sellers were honorable. Because I still had more questions than answers about the information I was seeing, I didn’t do much more than collect data.

Thus for many years, Rife and his inventions occupied the same category as all the other unsolved mysteries of the universe, like who built the Easter Island statues and how did the Bermuda Triangle sink ships. Although my collection of papers taunted me with their “too good to be true” rumors, my intuition told me that this information was vitally important and would one day bear fruit. So I put everything into a file folder and waited, remaining open to whatever the universe might choose to reveal.

Then in 1993 I met Howard, a US-based dulcimer maker and musician who had majored in electrical engineering at Cornell and was now retired. With his highly inquisitive mind, engineering background and love of tinkering with machines, Howard was an ideal Rife researcher. (He had already demonstrated an affinity for unusual science projects: One winter holiday, he sent me several Petri dishes containing glow-in-the-dark fungus as a gift.) Howard had previously been interested in frequencies as a musician (as had I), so learning about Rife was a logical next step. When he informed me that unfortunately (for experimentation purposes) he was in excellent health and therefore had no way to test his (not one, but two) frequency units, I could not believe my good fortune. Having suffered for years from a severe systemic *Candida albicans* infection and desperate for relief, I instantly volunteered to do the testing for him. Just as eagerly, Howard accepted my offer. This is how my academic query turned into a hands-on experiment.

Little did I know that my experimentation would lead me to unexpected and startling places—and continue indefinitely. I exposed myself to many different types and makes of machines and tried nearly all of the frequencies that were on the lists that came with the units.

My efforts were rewarded when the *Candida* became more manageable. Then I began helping friends and acquaintances with health problems of their own.

As people learned that I was experimenting with rife technology, they began asking me about Rife and his life, how frequencies work, and about healing in general. Not knowing all the answers—especially when they involved electronics and details about pathogens—I pumped information from every knowledgeable professional who was willing to talk to me. Dragging out my dusty medical and science textbooks, I increased my knowledge about biology, brushed up on physics, labored over chemistry, and struggled with electronics. I also read every book on Rife that I could find. The problem was, except for Barry Lynes’s indignant little paperback and one highly technical manual on how to build a frequency machine, very little information on Rife and his inventions was available. Not only that, there was no cohesive guide to understanding or using frequency equipment. Plus, information on the frequencies themselves was scattered in many different places. So I began to compile a simple guide of popular frequencies that I had personally found to be effective, while continuing to work with new frequencies.

Almost immediately, it became clear to me that I couldn’t just create a list of numbers to go with the equipment. I wanted people to understand that in most cases, it wasn’t enough to receive frequency sessions; they had to actively eliminate the conditions that had allowed their illness to occur in the first place. I needed to investigate, refine, and explain a solid, workable paradigm of what it meant to be healthy.

At that point, a major area of my life had become heavily impacted by my involvement with Rife research: my work as a Reichian (body-mind) psychotherapist. More and more clients were coming to me who were struggling not only with knotty emotional issues, but also with serious physical ailments. They had been taught that Western medicine was the only legitimate modality, so they weren’t convinced that holistic methods could help them. Some clients had trouble understanding that physical disease can influence one’s emotional state in unexpected ways. This lack of comprehension struck me as odd—considering that they had specifically sought my services because they knew that unresolved emotions lodge in the body as muscle tension, which causes biochemical changes that eventually lead to illness. But it never occurred to these same clients that many emotional problems can be exacerbated, or even directly caused, by the same biochemical imbalances and pathogens involved in disease! This piece of information even more strongly fired my resolve to focus on the physical, as well as emotional, origins of disease.

The more I became immersed in frequency therapy, sharing—with friends, acquaintances and even strangers, anyone who'd listen—became a full-time job. There was so much to report and explain that I was teaching even in social situations when I “should” have been relaxing. I did recognize, though, that this was a lot of information for people to handle—especially in a social situation, where they're not expecting to be bombarded by an impassioned lecture on medicine. Also, people tend to retain information more easily if it's written down. And, most important, although my enthusiasm never waned, my energy levels did. So I realized I needed another way to convey the material, and looked for well written, accessible books that presented the topic clearly and thoroughly.

To my great dismay, I couldn't find what I was looking for. What I wanted, very simply, was an all-purpose holistic health book that met many needs and featured a wide range of topics: cutting-edge research in medicine and science, an exposition on Rife and his work, and a foundational discussion of electromedicine (so people would understand why Rife therapy is so effective), along with a directory of frequencies to use for specific health conditions. Not surprisingly in retrospect, nothing suited my exacting requirements. After complaining for months about how hard it was to obtain reliable information about Rife, in conjunction with additional topics that I felt were essential—presented, no less, in just the way I wanted—I realized that the person who was supposed to put all this together was me. That is how my little list of popular frequencies metamorphosed into a project whose scope I couldn't possibly have foreseen. This fifth edition that you are now holding in your hands is the result of my curiosity, learning, labor and love over the course of two and a half decades.



Now that you have this *Handbook*, where do you begin? Some readers, especially those who own frequency devices, may be tempted to jump directly to the Frequency Directory (Chapter 5). But this *Handbook* is about much more than pathogen-destroying frequencies. It is about freeing yourself from medical propaganda, trusting in your own experience, and opening to the self-confidence and health that blossom when you think and act for yourself. So please don't ignore the beginning of the book. It shows you new ways to approach your body and healing, as well as addressing your questions about rife machines.

Chapter 1, “The Politics of Medicine and the Nature of Health,” is a primer on allopathic vs. holistic (also known as “complementary,” “alternative,” or “functional”)

medicine. It explains why most drugs don't work and in fact make you worse—as well as how most clinical trials are not only worthless, but can be rigged to “prove” whatever outcome the experimenter wants. The reader is also shown how drugs are approved, and by whom—which in virtually all cases, involves politics and profit rather than humanitarian concerns or even good science. This chapter also contains a brand new section on electrosmog: what it is, how it affects us, and how to avoid it.

Chapter 2, “The History of Pleomorphism and the Inventions of Royal Raymond Rife,” features Rife's unusual life and the controversial debate over pleomorphism—a phenomenon relatively unknown in the United States, but widely understood in Europe. Pleomorphism is the ability of pathogens to radically change their form, structure and function, from simple and primitive to highly complex and multi-functional, depending on the changing terrain of the body. Rife's microscope showed that often, pathogens become dangerous only when the system becomes biochemically unbalanced. So, if you are attached to the germ theory of disease, this chapter will give you a different perspective. The debate on pleomorphism is important, because as long as we perceive ourselves as helpless victims of germs, we'll continue to rely on pharmaceuticals to help us get well. But if we understand that pathogens can and do adapt to their environment, we can lessen or remove their harm, knowing that we can alter that environment—the terrain of our own bodies.

The task of making that terrain (ourselves) less hospitable to pathogens leads us to Chapter 3, “Healthy Living and Complementary Therapies.” Here, you will find some of the most effective, user-friendly, and inexpensive protocols to help you detoxify and heal. This chapter is a guide for frequency device users who want to handle the effects of sudden microbial die-off. But it's also designed for non-rifers who want clarity about lifestyle choices, and are eager to learn about some of the best, mostly self-administered, holistic protocols available today. Readers already familiar with these protocols will learn new ways to approach what they're doing. The range of therapies is vast. In addition to ozone, sauna and light therapies, Inclined Bed Therapy, and homemade colloidal silver, I have added sections on homeopathy, organ cleanses, and so-called “folk” remedies that really work—activated charcoal, clay, and castor oil. This edition also contains vital new information on food, exercise, and nutritional supplements. Also, from my Reichian psychology background, I discuss the relationship between mind and body and the psychological aspects of what we call disease.

Chapter 4 shifts our focus to the “how to” of Rife's technology. To apply this technology correctly, you need

to know who can benefit from the equipment and who should not use it, and under what circumstances; what type of frequency device might best suit your needs; how to give yourself a Rife Therapy session; how to administer sessions to children, pets and the elderly; how to select the correct frequencies; how to deal with detoxification reactions from microbial die-off; and what to do if you're not getting the results you want. If you already own a frequency device, this chapter will help you use it to its full advantage. If you don't own one, this chapter will help you choose the unit that's right for you. In addition to older material that has been rewritten for clarity, there are some new sections, including one specifically for practitioners on how to incorporate this therapy into a busy practice.

Chapter 5, offering an extensive "Frequency Directory," also teaches the reader how to navigate through the alphabetized listings that provide frequencies for common and exotic diseases. In addition to conditions such as allergies, cancer, HIV, Lyme disease, Morgellons and neurological disorders, Chapter 5 includes the viruses, bacteria, parasites, protozoa and fungi that are implicated in these symptom pictures. This chapter also doubles as a basic medical primer for the layperson; so even those without a rife machine will benefit from its contents. Summaries of the functions of organs, glands, and bodily systems accompany the listings, along with suggestions of holistic therapies that support (or can be substituted for) the frequency therapy. When medical terms are used, they are always translated into plain, everyday language.

Chapter 6, "Creating a Better World, Inside and Out," deals with topics that might be regarded as optional, but they will help us meet today's challenges. Many people are unprepared for death and they fear it, both for themselves and their loved ones. Yet paradoxically, in the United States at least, the dominant values (not to mention images) of the culture are filled with death. Our social system supports misery, poverty, fear and hate, instead of joy, abundance, truth and love. We cannot die in peace without living in love. In this chapter I discuss the changes that must be made on all levels—personal, political and transpersonal—in order for a life-based culture to emerge. In keeping with this theme, I could not resist including some exciting, groundbreaking scientific research that points to the existence of what some call "spirit" and proves beyond a doubt that love heals.

Appendix A, "Resources," lists some great sources of health-related information, products, and services (including some new listings, such as EMF protection and personal care products). For those who want to offer Rife Therapy to others, Appendix B, "Legal Implications of Rife Sessions," discusses some challenges of using a

non-medically approved device for healing purposes. (Please note that I am not an attorney. Not all countries and municipalities have the same legal requirements for providing electromedical therapies. Use this section as a guide, but do consult legal counsel to ensure that you are compliant with the laws of your locale.) Appendix C, "Healing with Electromedicine and Sound Therapies," is written for the layperson with no background in physics or electronics. This overview, which includes definitions and concepts related to the electromagnetic spectrum and sound waves, will help you better understand the more technical aspects of almost any electromedical device you wish to use.

Appendix D lists some publications on electromedicine. You may be surprised to learn that medical doctors were using many of these technologies over one hundred years ago! Appendix E describes a recent US medical study of a frequency machine to kill leukemia cells. Appendix F lists toxic chemicals in household products that many of us use every day, so you can avoid them. These chemicals are totally unnecessary because, as described in Appendix G, there are "Safe Substitutes for Common Toxic Chemicals." Appendix H shows you how to assemble your own detoxification footbath for under ten dollars (and yes, it really does work). Appendix I, compiled just before this book went to press, presents medical studies showing the harm of WiFi, microwave ovens, cell phones, computers, and other electropolluting equipment. This is a vitally important appendix, because the telecommunications industry—often with the sanction of governments, worldwide—has not only suppressed these studies (and replaced them with lies), but is now pushing the even more dangerous 5G technology. This needs to be stopped. In References, for your convenience, I include contact information for some non-mainstream sources.

Now for some editorial comments. Because a major theme of this book is self-empowerment, I have tried to select my words carefully. When referring to people with health problems, I don't use the word "patient" because it reflects and reinforces a hierarchical model that exalts the doctor as the all-knowing savior and relegates the health seeker to a subordinate, lesser role. The history of the word "layman" reveals a similar subordinate status; and even though I use "layperson" instead of the gender-biased "layman," the origin of the word should be noted. Initially, "layman" meant any person (male) who was not a member of the laity (clergy). Later, "layman" was expanded to mean anyone who was not in a specialized profession. In other words, a layman is a commoner without a title. In today's dualistic world, more respect is given to those who hold prestigious titles and degrees than to those who

do not. In truth, many laypeople are highly educated and informed—often more than those with degrees—but their lack of medical credentials apparently still makes them commoners (unworthy). I couldn't find a suitable word in English designating someone who is not a medical professional yet is worthy of respect.

This leads me to my citing of people who don't hold titles or degrees. While I have, of course, quoted credentialed professionals whom I admire and respect, I have also quoted people who aren't well known or necessarily have degrees, but who offer valuable input. Considering how many medical researchers have falsified data and outright lied (explored in depth in Chapter 1), it seems fitting that we expand our notion of whose ideas are worth considering. It is my hope that common sense and a resonance with the truth, rather than degrees and titles, will prevail.

Despite my own language preferences, when quoting others I try to respect the writer's voice. Thus, if certain words are used (such as "patient"), I leave them in. The same holds true with spellings, such as British English, which is sometimes different from American English.

Royal Rife's name is used often, as one would expect. Appropriate to this usage, "Rife" is capitalized. However, "rife" and "rifying" are now being used as verbs (referring to the act of giving oneself a frequency session). For these, and for the noun "rifer" (which refers to one who gives oneself frequency sessions), the "r" is not capitalized. Similarly, when used to describe frequency equipment, "rife" is not capitalized, as none of the units being made today were made by Royal Rife the man. A similar logic explains why "rife practitioner" also uses a lower-case "r." However, when referring to the research, "Rife" is capitalized because engineers and scientists involved in this area are usually investigating the man as well as the technology. I do capitalize "Rife Therapy," however, to make this modality immediately visually recognizable and distinct from other holistic protocols being discussed.

My final editorial comment concerns the completeness of the data in this new edition. I have included current discoveries about health as much as possible. We already know that two scientists—who for years had been ridiculed by colleagues for insisting that stomach ulcers are caused by a bacterium—found *Helicobacter pylori* in the stomach lining of enough people with ulcers to win a Nobel Prize. However, dangerous microorganisms are now being linked to conditions we normally might not associate with pathogens at all. For example, one doctor found a corkscrew-shaped, bacterial spirochete in the spinal fluid of over 90% of his clients with Multiple Sclerosis. Actinomycetes is being tied to Parkinson's

disease. And irrefutable evidence shows that not one, but two strains of Adenovirus can make us fat. In addition, we now know that bones and fat cells produce hormones.

More details on medical cover-ups have also been included in this edition, although frankly, it's hard to keep up with them. There's a fresh scandal every month, if not week—about not only the adverse effects of drugs, vaccines and medical devices, but also the drug industry's attempts to hide, distort and outright falsify test results in the hope that consumers will continue to buy their products. Depending on the media spin, it's either sloppy science (their intentions are honorable and they're just incredibly incompetent), or outright lies (they know exactly what they're doing and don't care who they hurt). Every effort has been made to bring you the most up-to-date news. But unfortunately, more corruption always seems to occur (or at least becomes public knowledge). The printed page cannot match the speed at which electronic media disseminates new information. Therefore, you are encouraged to search for updates on your own.



The first edition of *The Rife Handbook* debuted at the March 2002 Rife Conference held in Las Vegas, Nevada, in the United States. Despite my having steadily been researching this technology for eight years at that time (long after I was given those first fliers about Rife's therapy), I could not have anticipated how many people were hungry for information about this unique healing modality. Nor could I have grasped the diversity and sophistication of knowledge required to be a researcher in this field—not until I attended the conference.

Being at that conference, as a speaker, author and student, changed my life. Health professionals, equipment manufacturers, and engineers were present. But others attended too—people who knew someone with a serious disease or who were ill themselves. Tired of the same old drugs-and-surgery routine dispensed by doctors trained in nothing else, they wanted something better. Several people who were already using the technology recounted successful interventions against cancer, Lyme disease, and other conditions. I was very moved by the courage of these folks who were taking charge of their own lives—often despite the hostility of their friends and families, and against the advice of their allopathically trained doctors.

I was also impressed by the dedication and talents of the researchers. While it was true that they could be a cantankerous bunch—quarreling about their pet theories, how things worked and how to best accomplish their goals—it was largely because they cared. They

cared not only about whether others lived or died, they also cared about the quality of people's lives. As I later discovered, many of the researchers (like me) had at some point struggled with severe ill health. Others began their research after the death of a close friend or family member.

As I listened to the presentations and saw how much there was to learn, it was hard not to feel overwhelmed by what the seasoned rifiers knew. The field of Rife technology is so vast, it requires the knowledge and expertise of people in many diverse disciplines: the healing arts (medical doctor, acupuncturist, homeopath, naturopath, veterinarian, massage therapist); medical and scientific research (microscopist, laboratory technician, microbiologist); historical research (archivist, writer, filmmaker); physics; and of course electronics engineers, with their nuts-and-bolts skills of building equipment. Every rifer has something to contribute. This technology could not have come this far without input from everyone.

In the years since the first—and, in hindsight, very elementary—edition of this *Handbook* was released, I've had the almost daily privilege of connecting with customers from all over the world: Australia, Austria, Belgium, Brazil, Canada, China, Croatia, Denmark, France, Germany, Greece, Hong Kong, India, Israel, Italy, Japan, Kuwait, Manila, Mexico, the Netherlands, New Zealand, Norway, Pakistan, Poland, the Philippines, Romania, Singapore, Slovenia, South Africa, Spain, Sweden, Switzerland, Thailand, United Arab Emirates, United Kingdom, Zimbabwe, and of course my native United States. Words cannot adequately describe my appreciation of these rich multicultural exchanges. The health professionals wanted to learn more, do more. And laypeople, many of them quite ill, made a point of telling me how rigorously they had been seeking alternatives to the unhelpful medical treatments they had already tried. We may not be regularly reading or hearing about Rife's inventions in the national media, but that has not prevented knowledge of this therapy from spreading. People are waking up. They are intuitively sensing that frequency healing is a viable option, despite disparaging comments from the mainstream press. And these seekers won't stop searching until they find something that works.



Knowing how to operate frequency equipment and which frequencies to use is a good start for your health protocol. But genuine healing usually requires major changes. This is why *The Rife Handbook* contains more than the three chapters that deal with the history of Rife, the “how to” of his therapy, and the “which frequencies

should I use” advice. You are being asked to set aside a one-size-fits-all, pop-a-pill-for-instant-results mentality concerning medicine. You are also being asked to consider that your education in the sciences was at best incomplete, and at worst an outright lie. You are being asked to maintain (at least for a while) an open and inquiring mind. And you are being asked to make changes in your lifestyle if necessary. This could mean anything from different dietary habits to questioning authority or even to meditating daily. Transformation means thinking outside of the box—indeed, dismantling that box entirely! As a colleague said to me recently, “*What box?* There is no box!” The good news is, the more we extricate ourselves from old habits and rigid constraints, the more we can reinvent ourselves in increasingly life-affirming ways.

This new paradigm that I am asking you to consider does contain some familiar elements. After all, Rife's therapy—at least what he publicized—was all about viewing and devitalizing harmful microorganisms. But despite the clear association between pathogens and disease, this doesn't mean that we should ignore other issues pertaining to wellness. Healing means balancing the bodily terrain; even Rife himself stated its importance. (Hence, the need for lifestyle changes.) Also, despite Rife's spotlight on pathogens, we are realizing today that his therapy very likely conferred other benefits unrelated to pathogen destruction. The field created by his ray machine appears to have helped normalize tissue function. For many reasons, then, it's a mistake to utilize Rife's technology in an allopathic way.

Nevertheless, I do not intend to misrepresent Rife Therapy. Despite the amazing cures witnessed by Rife's colleagues, or how much I have personally benefited, or the many remarkable success stories reported by friends, colleagues and acquaintances, I freely admit that even an outstanding therapy has its limitations. There is no magic cure-all that has been found to work for everyone, always. While the majority of people respond favorably to sessions, some respond minimally or not at all. The machines cannot produce miracle cures; your body is in charge of that. If you faithfully give yourself rife sessions but continue doing what contributed to your getting sick in the first place, the best equipment in the world will not produce lasting positive changes. Also, *when* you use a healing modality is as important as the therapy itself. Depending on the extent and type of imbalance, one protocol may work better at a given time than another.

Sometimes I hear people complain when their healing is not progressing according to schedule. But whose schedule? We are not machines, even though the medical establishment would like us to believe that we are.

Furthermore, the medical industry has a very narrow definition of “normal,” even though people vary wildly outside the range of presumed “normalcy.” How many times have you heard of someone who felt unwell, only to have their doctor say, “There’s nothing wrong with you; you’re in perfect health”? We need to rely on common sense and how we feel, not blindly trust medical biases that have no foundation in fact. Much of modern medicine is based on arbitrary standards that change, according to the desires, agendas, and goals for profit of those in power.

Here’s a question, then, that I like to ask: If medical standards keep changing (apparently capriciously), and doctors keep changing their minds about protocols and prescriptions (based on these capricious standards), whose standards should we follow? And from whom should we seek guidance? Maybe it’s time to reevaluate the health care you have been receiving. Consulting with a health professional can be helpful and even essential, but you must use your own discernment too. Who is most qualified to help you? The person with the most impressive credentials may not be your best choice. If your practitioner doesn’t listen to your concerns or take them seriously, or if his or her training seems more important than what you are experiencing, maybe you should start looking for another practitioner.

You are the one who’s living in your body—so ultimately, your best teacher is you! However, to become that exemplary teacher requires commitment. You have to study, reason, decide what to keep and what to discard, trust your own (informed) experience, and be willing to make mistakes and learn from them. And you *will* make mistakes! But let that be okay. Taking responsibility and being accountable for our own decisions and actions makes us powerful. This book is a stepping stone to acquiring the knowledge that you need to become an expert...on you.



Today, five decades after Rife’s death, the concepts of Rife Therapy, frequency healing and resonance therapy—while not yet household phrases (at least in the US)—are trickling more into the public’s consciousness. In some circles, the technology is being used so regularly that the word “rifting” has become a verb. I think that Royal Rife would have been moved and gratified that his modality is finally being given the respect it deserves. I trust that by the time you finish this book, you, too, will be using the word “rifting” as a verb.

One final thought. More and more people are insisting that they aren’t commodities that are bought and sold in the marketplace. They don’t want to be toyed with, experimented on, or lied to. They don’t want their

treatment options limited by what their doctors were allowed to learn in medical school. And they don’t want licensing boards to prevent their own doctors from helping them: most boards forbid doctors to suggest alternatives to the prevailing (allopathic) standard of care.

People also want their health care providers to honor their need for compassion and hope as much as they honor their need for physical care. Health seekers want to be respected, to have their humanity acknowledged—and to be free to make their own choices. In other words, people want a voice in matters that affect them—and this includes the health protocols they use. No wonder polls consistently show that three-quarters of the United States population have sought complementary therapies in addition to Western medicine!

In this technologically advanced and uncertain age, with escalating infectious diseases and degenerative conditions, we need Rife’s and similar technologies more than ever. Yet the power elite is fighting back even harder, invested in perpetuating its own agenda and maintaining the status quo—at the expense of health and happiness, not to mention lives. Despite an obvious need worldwide for all kinds of electromedical modalities, information about Rife Therapy has largely been available only to the few who discover it by chance, or who know where to look for it (and to look for it at all). The majority of people in the United States are ignorant of this elegant technology that can substantially reduce suffering and save countless lives. My goal is for *The Rife Handbook* to empower significant numbers of people—not only by providing them with reliable information about more and better health care choices, but by inspiring them to spread the word to others that these choices exist.

The widespread use of frequency therapies, including Rife’s technology, promises to change the way medicine is practiced. Even if you are fortunate to be in good health now, it’s comforting to know that this technology is available if you or a loved one need it in the future. Simply by picking up this book, you have proven that you want more than what’s being offered by industrialized pill pushers, that you aren’t satisfied with the lowest common denominator of mediocrity. Anyone who seriously investigates Rife Therapy is making a statement. Therefore, you deserve to be congratulated for having the vision and strength to see through—and beyond—the dominant paradigm. It takes courage to challenge entrenched ideas!

I sincerely thank you for helping to create this positive global change in consciousness. It is truly a blessing to be accompanied by all of you who are embarking on this amazing journey of healing and hope.

The Campaign to Suppress Holistic Medicine

How did medicine in America shift from its early emphasis on prevention and health to a model of disease management?

In 1908, the American Medical Association's newly formed Council on Medical Education wrote to industrialist millionaire Andrew Carnegie to propose a collaboration to "reform" medical education. The Carnegie Foundation was allied with the Rockefeller family, which had interests in oil and was now investing heavily in pharmaceutical companies. The group decided to hire Abraham Flexner to investigate medical schools in the United States and Canada.

Flexner was a schoolmaster who knew nothing about the field of medicine. However, his brother Simon was director of the Rockefeller Institute for Medical Research. It's no surprise, then, that Flexner's findings—commonly known as the *Flexner Report*—heavily favored those medical schools that emphasized the use of pharmaceuticals. Wanting to improve the status of doctors, Flexner suggested closing most of the schools that allowed entry to women and black people. He advised the medical field to require specialization. And he insisted that funding and accreditation be given to only those medical schools that trained doctors in emergency and surgical medicine—both of which require the extensive use of drugs.

In response, the *New York State Journal of Medicine* berated the Carnegie Foundation for being dictatorial, for attempting to eliminate specific universities, for threatening the freedom of whatever medical schools were being allowed to remain open, and for denigrating anything that competed with the prevailing allopathic (Western, drug-oriented) methods. However, most other medical organizations and publications praised the Carnegie Foundation's goals precisely *because* of the clear bias against chiropractic, homeopathy, and all other forms of holistic medicine. The *Journal of the American Medical Association* supported Flexner's position as truth. Soon, the historic *Flexner Report* was widely acclaimed by everyone in the allopathic medical community. One hundred sixty medical schools had been open in 1905. But by 1927—just seventeen years after the *Flexner Report* was issued—that number dropped to eighty.

The Rife Handbook of Frequency Therapy and Holistic Health is designed to challenge this legacy of suppression and deception. We don't have to perpetuate what we have inherited. It's time to replace establishment medicine with true healing, derived from many disciplines.



Nearly all people die of their medicines, and not of their illnesses.

—MOLIÈRE, FRENCH WRITER (1622–1673)



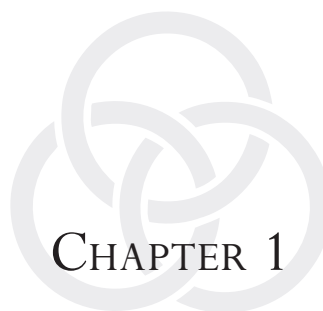
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The Politics of Medicine and the Nature of Health

TODAY'S CHALLENGE

Chances are, if you're reading this book, you have a health problem. Or someone you know does. Perhaps your treatment didn't work. Or it had too many unwanted, negative effects. Maybe it's taking too long. Are there viable alternatives for you, your family and friends? What are these other modalities, and how can you access them?

Perhaps you've heard about Rife the man, or the therapy he invented. What is it, how do you use it, and how can you get it—now? If you suffer from chronic or serious health problems, it's understandable that you might feel impatient and want answers to these questions immediately. This chapter doesn't talk about Rife or his therapy, though. Why not?

Electromedicine, which includes Rife Therapy, is not routinely used. It's not routinely used because it's not well known. But this doesn't mean it doesn't work. The relative obscurity of all electromedical modalities is due to the overbearing nature of our current medical paradigm.

In order to utilize Rife Therapy properly, it's important to understand the limitations of our medical system and why it has eclipsed other, more effective modalities. Therefore, I ask for your patience as I present the material in a manner to provide you with maximum benefit.

Some of the data that you'll read may surprise, disturb, and even shock you. But only by knowing the truth can we know what we're dealing with in our quest for healing. The truth always helps us make wise and informed choices.

Everyone wants to be healthy. Yet in this modern world, good health seems more elusive than ever. The number of chronic and degenerative diseases, such as arthritis, diabetes and colitis, have skyrocketed. Cancer, which according to the American Cancer Society afflicted only one in 8,000 people living in the United States in 1901, now plagues almost one out of two Americans.¹ Many more people suffer from asthma and food allergies—which, although usually not life-threatening, can substantially interfere with one's quality of life.

Citizens of industrialized countries outside the US have fared better, at least so far. However, with the rapid increase of "fast" food, as well as unwise agricultural practices and pollution worldwide, the prevalence and severity of illnesses outside the US is escalating as well. And many people in non-westernized countries suffer from serious diseases and microbial epidemics, most of which are caused by unsanitary living conditions. Despite our apparent best efforts, viable long-range plans to improve the world's health have not yet appeared. Global illness is an escalating and severe problem.

It's time to change our approach—but so far, the world has been given basically one perspective: the dominant medical model. Do we really have other options?

We do. However, to explore these other options, we need to take a critical look at the existing medical paradigm. Once we understand what went wrong, we can figure out how to make it right. Then, global illness will become global wellness.

DEFINING HEALTH

The word *healthy* comes from an old Anglo-Saxon word meaning “to heal, make whole.” This indicates that health is the ability to function in a unified way, in which all parts and living processes interact with each other in a complex, balanced exchange.

We cannot be robustly healthy in general while some little part of us is very ill, just as individual parts of us cannot be in perfect health while the rest of the body is sick. How many times have you heard, “She was *perfectly healthy* until she came down with cancer”? That “perfect health” didn’t exist. It took *time* for that woman to reach a state of imbalance. Her doctors and family just *thought* she had been well because they were unable to recognize the warning signs that indicated the eventual onset of cancer. The limitations of conventional medical training impeded not only the ability to diagnose, but also to cure.

There are two basic approaches to disease: allopathic (modern Western) medicine, and holistic (complementary) care. Holistic medicine is sometimes called “functional medicine” because it deals with the function and structure of the body, and not just pathology, infection and disease. Most of us have been raised under an allopathic paradigm; but with a little practice, you can expand out of the allopathic world into the wider arena of holism.

Allopathic medicine is concerned with treating disease. It regards the body as a machine that is the sum of its parts. If something breaks, it must be fixed. One way to fix it is to cut out the body part or parts that aren’t working (surgery). Another way to fix it is to give the person a drug that substitutes for the function of the body part or parts that aren’t working. Still another way to fix the body is to numb the person against feeling the uncomfortable symptoms—again, by administering drugs. Drugs are created by extracting individual components from whole herbs, and/or synthesizing chemicals in a laboratory.

Holistic care is concerned with maintaining health. It treats the person as a living entity of interconnected relationships rather than as a carrier of isolated symptoms we call *disease*. The body is a unified organism that is greater than the sum of its parts. If something doesn’t function properly, we need to find out why. Improving function requires a multi-dimensional approach. We must eliminate the poisons that clog the system. We also require the appropriate raw materials to rebuild tissue. These include foods, herbs and perhaps supplemental nutrients. And we might benefit from energetic treatments—in the form of healing electromagnetic fields, electricity, or magnetism—which encourage proper function of cells.

There are times when allopathic medicine does have its place. If a motorist is seriously injured in an

automobile collision, doctors can perform life-saving surgery. If someone does not produce enough insulin (a pancreatic hormone that helps the body utilize blood sugar) and is about to fall into a dangerous diabetic coma, the administration of an allopathic drug can save a life. Emergencies by definition require immediate intervention; we don’t have time to wait for the body’s natural recuperative abilities to start working and create the needed changes. It is wise to acknowledge that sometimes, the body simply cannot heal without a well-timed, externally-generated push.

Degenerative diseases, however, take time to develop. Had the person possessed more biochemical and energetic balance in the first place, s/he would not have reached the point of requiring such drastic intervention. Restorative steps could have been taken initially so there would not be a sudden need for insulin later. With allopathic medicine, invasive behavior is the norm and not the exception. With preventive medicine, there is less need for aggressive intervention because the body’s innate ability to heal is being respected instead of suppressed.

In America, allopathic medicine is called “traditional,” while holistic medicine is commonly labeled “alternative.” But it’s allopathic medicine that is “alternative.” Holistic medicine has existed since ancient times, while allopathic medicine has gained gradual prominence only in the last century.

As part of this attempt at cognitive reversal, allopathic medicine is also called *mainstream* care. Being in the *mainstream* (as compared to an incidental little trickle) implies *main treatment*, which then translates to *treatment of choice*. But one must ask, “Whose choice?” Not surprisingly, *mainstream* medicine is heavily promoted by *mainstream* media, which casts holistic care as the “other” or “alternative” modality—and, by implication, as “secondary” or “inferior.” With few exceptions, the media also tries to denigrate holistic care through such misleading terminology as “controversial,” even though the mainstream press itself has reported that about 75% of the United States population has tried some form of “alternative” holistic modality in the past several years. In *Immunization: The Reality Behind the Myth*, Walene James asks:

What is *controversy*? The word itself comes from the Latin meaning “turned opposite.” That which is controversial is turned opposite a dominating structure, in this case, establishment medicine. In a free and open society, there would be no such label as “controversial,” only disagreement within an open forum of ideas and options. There would be no one mainstream but many streams, each meeting different needs.

Likewise with the word *alternative*, as in “alternative” medicine. What if we called [the] Spanish [language] “alternative English”? The ethnocentrism—or is it chauvinism?—would be obvious.²

People conditioned by the Western medical model view it as *the* method of healing; they follow its dictates without question. What if there were more options, models that helped us take responsibility for our health rather than give away our power to question and choose? What if there were models that helped us unearth potential we never knew we had?

The first step, then, to managing disease is understanding what it means to be healthy. What is health? Health reflects an organism’s ability to grow and function at optimal physical, emotional and energetic levels according to its nature. A healthy organism radiates vitality or life force. It assimilates, transforms and redirects life force—either back to itself when necessary, or outside of itself. In biochemical terms, this organism absorbs nutrients, utilizes them for repair, transforms them into fuel for energy, and removes toxic wastes that are a byproduct of metabolism. Emotionally, the individual reaches out to the environment (including other people), absorbs what is optimal for growth, and then gives back to the environment in an appropriate manner, while maintaining appropriate and flexible boundaries.

An unhealthy organism does not radiate vitality. It cannot adequately or efficiently utilize life force for its growth. Lacking energy to give to its environment, it tries to draw energy to itself. When extreme depletion occurs, this state is known as disease, reflecting an organism’s inability to optimally function and grow. Such an individual may also be emotionally restrained.

Randolph Stone, founder of Polarity Therapy, once pointed out that one’s level of health depends on a free flow of energy in the body-mind system:

When these energy currents flow freely without interruption there is a state of balance, . . . [a] freedom of motion and function, called health. . . . Interference in this natural flow of energy manifests as a multitude of pains and symptoms of energy blocks, where the current is short-circuited and broken down. This is called “disease,” named after the structure plus “itis” (inflammation) or “algia” (pain), such as appendicitis, neuralgia or a complete breakdown “lysis,” like in paralysis.³

People out of balance must work harder to maintain themselves. There is less efficiency and enjoyment in everyday activity. Eventually, the decrease of overall

It is much more important to know what sort of a patient has a disease than what sort of a disease a patient has. . . . The good physician treats the disease; the great physician treats the patient who has the disease.

—Sir William Osler
“Father of Modern Medicine,”
Canadian physician, historian, author,
and a founding professor of Johns Hopkins Hospital.
Creator of the first residency program,
he brought medical students out of the lecture hall
to the bedsides of real people for clinical training.
(1849–1919)

vitality takes its toll: if the imbalance is severe enough, or occurs over too long a period, degeneration begins.

There are different levels of being ill or out of balance. Some common categories are *physical*, *emotional*, *mental*, *energetic* and *spiritual*.

Physical imbalance is the easiest to spot. Nausea, fever, or a sprained ankle may be characterized as physical. Examples of emotional imbalance include unrelieved upset, manic excitement, or uncontrollable rage. A mental imbalance often corresponds with emotional affliction, but disordered thinking such as obsession can be assigned to the mental arena for now. For those focused on practical, concrete reality, energetic imbalances may be more difficult to detect or even accept as factual; but they can be regarded as blockages that prevent limbs, organs, glands, or entire systems in the body from functioning correctly.

The last imbalance on my list, spiritual, can admittedly be difficult to identify. Spirituality is a very personal experience, and it means different things to different people. I define it for myself as “the consciousness of All That Is, that gives people the feeling of love and support through any experience.” An example of a spiritual imbalance is someone who feels depressed, lost or unloved because s/he doesn’t feel connected to a larger community outside of self.

The ways in which these five areas of imbalances overlap are many and complex. In fact, sometimes the structural, biochemical and energetic aspects can be difficult to separate. Acupuncturists who take the client’s energetic pulse, and chiropractors who use kinesiology (muscle testing), are familiar with the relationships between structural weaknesses in the body involving muscles and bones, and imbalances in apparently unrelated organs and glands. For example, an injured ankle may not simply reflect an isolated mechanical injury, but the end result of a weakened digestive system, as the pathways of the liver and gall bladder meridians run on both sides of the foot.

Another example of overlap is a queasy stomach and vomiting—classic physical symptoms of indigestion. However, there may be an emotional component as well.

Let's say a person is feeling upset due to a difficult situation. Neurologically, the message of upset is conveyed via electrical impulses that travel from the brain down the spine to the digestive tract. This causes the stomach to contract, interfering with the flow of digestive juices—which in turn hinders digestion, perhaps even to the point where vomiting may occur. Now add worry to the mix. If the person is obsessing (a mental function) about something upsetting that *might* happen, this “critical mass” of both mental and emotional distress may not only fuel indigestion, but cause the colon to become inflamed (a situation we refer to as a disease called “colitis”).

The biochemical and the neurological are acutely intertwined. In her groundbreaking book *Molecules of Emotion*, neuroscientist Candace Pert reported that receptors to “brain” chemicals called *neurotransmitters* are found not only in the brain, but also in the intestine walls. In fact, about 80% of the body's so-called brain chemical serotonin is produced in the gut! Thus, a “gut” feeling, unexplainable by the rational mind, is experienced literally and viscerally by the gut, and not just in the brain.

Again using the example of indigestion, other energetic pathways may be involved. The major acupuncture meridian that runs vertically down the midline of the body, through the belly, could be overactive or depleted of energy, and thus play a causal role in indigestion. The converse may also be true: injury or a constricted digestive tract, perhaps due to mechanical blockage, can create an imbalance in a meridian where none had existed before.

Finally, spiritual difficulties may play a part in this condition. People who don't feel loved or connected to others tend to be emotionally depressed. The depression may not be conscious, but it depletes the body of vitality. The body doesn't function optimally because there isn't enough energy to nourish all the cells. Collapse occurs, leading to all kinds of physical symptoms. So, even though spiritual imbalance is more conceptually amorphous than the other categories, it's the most encompassing. What began as a presumably simple symptom, indigestion, proves to be a complex, interweaving affair.

Classifying symptoms as belonging to “body,” “mind,” “emotions,” “energy” or “spirit,” is, in a way, reductionist. However, we have to start somewhere in this complex maze of cause and effect if we want to address the imbalance. This *Handbook* focuses (though not exclusively) on the physical body as the primary reference, or starting point, in the vast field that some refer to as mind-body-spirit. When the physical body becomes obviously disrupted, we call the resulting imbalance “disease.” Let's look at the many factors that contribute to illness, so we can get to the roots of the problems and fix them.

HOW WE BECOME ILL

From a holistic perspective, there are “contributors to” disease rather than “causes of” disease, because illness is rarely associated with a single factor. Rather, illness consists of many interrelated factors.

Nutritional Deficiencies

Nutrient starvation is due to poor quality food. Most people eat a diet consisting largely of processed food loaded with chemical additives. In fact, it's debatable whether some items sold to eat should be called “food” at all. A diet guaranteed to cause nutritional deficiencies—literally, the starvation of the body's cells—includes refined or excess sugars; refined carbohydrates (breads, pastries and pasta, made from denatured grains); chemical preservatives, flavorings, dyes, and other artificial additives; unfermented or improperly fermented soy products; soda and fruit juices; so-called junk food (such as manufactured dried snacks and chips); pasteurized and homogenized dairy; and most vegetable oils. A better term for such items is “fake food.” I would also include glutinous grains in this list, even if they are whole and not refined.

Fake foods do more than merely deprive the body of what it needs to thrive. They leach valuable nutrients from every cell. They add harmful toxic compounds, causing even more depletion in the system. And they hinder the body's ability to resist internal and external assaults and injuries. Under these conditions, digestion, absorption and assimilation of even healthful food is difficult. For a detailed discussion of food and diet, see Chapter 3.

Sleep Deficit

It's crucial to get at least seven hours of sleep a night, and preferably at least eight. The body uses the time to repair itself. Waste removal continues even more efficiently because tasks that are normally done during waking hours have been set aside. Vital functions such as heartbeat and respiration slow to a minimum. Even the brain is working to restore itself and promote memory retention.

Illness, nutrient starvation, hormonal problems, and irregular lifestyle habits can all contribute to a lack of sleep. Conversely, when we don't get enough sleep—and especially if sleep deficit continues over a period of even a few days, not to mention months and years—we lay the foundation for vastly reduced functioning, and even illness.

For a detailed discussion on the benefits of sleep, the effects of sleep deprivation, and suggestions on how to get a good night's sleep, see Chapter 3.

Oxygen Insufficiency

Oxygen scarcity is a serious problem. Not only would we die without it, but our tissues require oxygen for repair. As most pathogenic microbes thrive in an anaerobic (oxygen-deprived) environment, oxygen deprivation has serious consequences on many levels.

Some people who visit high altitudes—say, 5000 feet or higher above sea level—suffer from what is referred to as “altitude sickness” due to the lack of sufficient oxygen. Symptoms include heart palpitations and pain, migraine, insomnia, nausea, weakness, fatigue, and even fluid in the lungs in the most serious cases. A habitual lack of deep breathing (often due to the repression of painful emotions, discussed later in this section) also contributes to a lack of sufficient oxygen in the system.

In the United States, oxygen is sometimes administered to help ease conditions such as asthma and emphysema; and hyperbaric oxygen is (less often) utilized to help people recover from injuries and neurological damage. However, in many countries outside the US, the more powerful and sophisticated relatives of oxygen—ozone therapy (using pure medical grade ozone) and food grade hydrogen peroxide—are regularly employed for many different kinds of infections. Each provides significant benefits when used properly. Chapter 3 discusses in detail the history of oxygen therapies, how and why they work, and in many cases, how to administer them yourself.

Chemical Toxicity

Toxin literally means “poison.” Any substance that stresses the system’s biochemistry to the extent that cell structure and organ function are negatively affected, may be considered a poison. We call some of these foreign chemicals “drugs”—but there are literally tons of other chemicals that are so commonplace in our daily lives, and thus regarded as so normal, that many people don’t consider them dangerous. These chemicals enter the body through the skin, respiratory tract and gastrointestinal tract. The following data from *The Holistic Handbook of Sauna Therapy* describes just a few of the dangerous chemicals in our environment.

- ◆ *Benzene*. In cigarette smoke, gasoline, inks, oils, paints, plastics, rubber, detergents, explosives, pharmaceuticals and dyes. One study estimates that 45% of benzene exposure comes from cigarettes, including exposure to secondhand smoke.
- ◆ *Chloroform*. In cleaning solvents, floor polishes, insecticides, artificial silk and lacquers.

- ◆ *Dichlorobenzene*. In deodorants, insecticides, metal polishes, moth proofing, lacquers, and paints.
- ◆ *DDT (dichlorodiphenyl-trichloroethane)*. A highly toxic pesticide, it was outlawed in the United States in 1972, but can still be found in soil and other substances, including carpeting.
- ◆ *Formaldehyde*. In nearly all indoor environments: foam insulation, particle board, pressed wood products, grocery bags, waxed papers, facial tissues, paper towels, wrinkle resisters, adhesive binders in floor coverings, backings on carpet, even cigarette smoke.
- ◆ *Hexane/Heptane/Pentanes*. In glue, cement, adhesives, paint thinner, plastics, gasoline, ink.
- ◆ *Toluene*. In petroleum products, carpets, carpet glue, copy paper, paint.
- ◆ *Trichloroethylene (TCE)*. More than 90% of the TCE produced is used in dry cleaning and metal degreasing. The remainder is in printing inks, lacquers, varnishes, adhesives and paints. The National Cancer Institute lists TCE as a liver carcinogen.
- ◆ *Xylene*. In rubber, paint, ink, photo processing, plastics, insecticides, petroleum products.⁴

It’s impossible to avoid chemicals. “Our bodies act like sponges, absorbing the chemicals to which we are exposed,” write the authors of *Natural Detoxification*. “Water-soluble chemicals are absorbed and then excreted [but] fat-soluble chemicals accumulate in our fat cells and cell membranes. . . . When the body is under stress”—as during illness, emotional anguish, or nutrient deprivation—“it releases these chemicals from the fat to circulate in the bloodstream. Later, these chemicals will return to the fat cells and cell membranes, to be released another time. The release and return cycle of these chemicals continues indefinitely unless we help our bodies rid themselves of toxins.”⁵

A study on chemicals found in the human body states: “Over four million distinct chemical compounds have been reported in the literature since 1965, with 6,000 new compounds added to the list each week. “More than 3,000 chemicals are deliberately added to food and over 700 have been identified in drinking water. . . . Over 400 chemicals have been identified in human tissues, with some 48 found in adipose [fat], 40 in [breast] milk, 73 in the liver, and over 250 in blood plasma.”⁶ Less than half of these toxins have been approved by US government agencies.

The negative effects of toxic chemicals are outlined in Appendix F. Sauna therapy, along with other methods to help eliminate this toxic load, are discussed in Chapter 3.

Electron Deficiency

Charged subatomic particles called *electrons* provide energy to every cell in the body. One doesn't normally think of electrons as nutrients, but they are—because in many ways, our bodies are electrical circuits. Part of a cell is like a semi-conductor: it *conducts* electricity. The cell membrane is a capacitor: it *stores* electricity. The membrane is also a liquid crystal resonator that *detects and receives specific signals* (frequencies). Cells also emit radio waves, microwaves, infrared waves, and biophotons.

If a cell membrane is not recharged, the entire cell starts to malfunction. *Chronic disease is always associated with a loss of electricity (electrons)*. Note that if the thyroid gland—which is the body's metabolic engine—is underactive, the body cannot store enough charge and thus has a difficult time maintaining good health.

Electron *stealers* include dry wind, synthetic fabrics in clothing, negative emotions, a diet of fake food, and electrosmog (see Insert, “Electromagnetic Fields and Your Health”). Electron *donors* include moving water, natural fibers, positive emotions, a diet of raw organic vegetables and sprouted seeds, and biocompatible electromedical devices. Walking barefoot on soil, sand, rock or vegetation—as opposed to concrete, vinyl or carpet—is another way to receive free electrons from our planet Earth that's constantly recharging us.

Electromagnetic Toxicity

To many people, the word “toxin” means dangerous environmental pollutants and chemicals such as pesticides, fake foods and drugs. While chemicals certainly burden the body and prevent it from functioning properly, harmful electromagnetic (EM) fields are another, very real, and often hidden source of environmental pollution that can cause unlimited damage and even death. Some EM fields are benign or beneficial, but the majority are destructive. Of these, most are not naturally occurring; and they're caused by electronics. EM pollution is the new disease of the 21st century. For details, see Insert, “Electromagnetic Fields and Your Health.”

Weather Challenges

Weather has a profound effect on living organisms. Twenty percent of the population is estimated to be especially sensitive to certain types of weather. However, based on my personal experiences and observations, I believe that the percentage is higher—even though people may not always recognize what it is to which they are reacting.

There are many weather-related causes of discomfort and even ill health. The most obvious are extreme levels of dryness or humidity, heat or cold. (Not everyone, though, agrees that intense cold is harmful. Dutchman Wim Hof has developed a program involving breathing exercises

and repeated exposure to cold water for increasingly long periods. Scientists have found that developing the body's tolerance to cold restores mitochondrial and tissue function, improves immunity, decreases inflammation, alkalizes the blood, and activates the burning of fat. See wimhofmethod.com for more information.)

Thunderstorms are especially problematic for some people and many animals, who respond adversely to the excessive prior buildup of positive ions in the air—not to mention

the often sudden changes in barometric (air) pressure. People with arthritis are especially susceptible to changes in barometric pressure. Sensory nerves in their joints (which lack the normal cushioning from cartilage) hurt when the atmosphere changes from dry to moist, as during a storm.

Weather conditions determine the presence or absence of electrons. Moving air (such as a dry desert wind) steals electrons from the body, while moving water (such as a waterfall) replenishes electrons. Dry wind can exacerbate or outright cause asthma, hay fever and similar conditions because positive ions cause an increase in stress hormone production. Conversely, negative ions contribute to an increase in feelings of well-being and more rapid recovery from illness. Sunspot activity increases solar wind, which causes magnetic storms in the Earth's atmosphere that adversely affect the magnetic fields in our bodies. Lack of sufficient sunlight causes depression (see Chapter 3, **Light and Color**, for an in-depth discussion).

Getting Well Without the Doctor's Help

Many amazing reports have been recorded and continue to be recorded, in the lore of progressive cancer treatment. The medical establishment handles these in one of the following ways:

1. They are ignored;
2. They are explained as “anecdotal,” implying that they are lies [or they don't count, since the doctor had no control over the outcome];
3. They are said to have undergone “spontaneous remission,” i.e., unexplained recovery (this means the doctor has no idea what happened);
4. They are said to have recovered from the delayed effects of conventional (allopathic) therapy, which was administered weeks or months before the progressive therapy.

—Ron Kennedy, MD
July 2000

Electromagnetic Fields and Your Health

A Crash Course on the Electromagnetic Spectrum

There are many types of electromagnetic (EM) fields, collectively known as electromagnetic radiation. In this nuclear age, when one hears the word “radiation,” it’s easy to think of a dangerous nuclear powered reactor. *Radiation*, however, is simply of energy emitted by a source—whether that source is a nuclear power plant, the sun, or an electrical socket. Radiation can be harmful, beneficial or neutral.

The EM spectrum consists of energy oscillations, or *frequencies*, that comprise our (conventionally) known universe. Slow-moving EM radiation has longer wavelengths and fast-moving EM radiation has shorter wavelengths. These wavelengths are measured in cycles per second, or *Hertz* (abbreviated *Hz*). A given amount of space that contains a single low frequency can contain many high frequencies, as high frequencies have shorter wavelengths.

Electromagnetic energies include different types of electricity, radio frequencies (a huge category that’s further divided into AM radio, FM radio, TV and microwaves), infrared radiation (which includes a narrow band of far infrared), visible light, ultraviolet, X-rays, and gamma rays. Even though these energies seem unrelated to each other, and we typically think of them as separate phenomena, it’s important to understand that all EM radiation exists along a *continuum*. The various EM wavelengths exhibit different characteristics—and we use them differently—according to how quickly or slowly they’re oscillating. A chart of the EM spectrum is on the next page.

Most EM wavelengths are invisible to the human eye, and are usually undetectable to our other senses. For example, we cannot see radio waves, microwaves, infrared or ultraviolet radiation. However, the small section (band) of the electromagnetic spectrum that we can see, we call “visible light.”

Electricity and magnetism are intimately related to each other. Wherever there’s a flow of electrical current, a magnetic field is present; and wherever there’s a magnetic field, it’s possible to create an electrical current. The bodies of humans and other living things contain both electrical and magnetic energy.

EM energy can be natural or artificially produced. For example, the EM radiation that’s emitted by our sun, and which travels through space and Earth’s atmosphere, occurs naturally. It has very different properties than the more concentrated, artificially created electromagnetic fields that bombard us on a daily basis. It’s this human-made energy, which we deliberately produce and harness, that will be our focus.

Harmful EM Fields vs. Healing EM Fields

Not all EM fields are dangerous. In fact, many are biologically necessary. Take, for example, certain *far infrared radiation* (FIR) wavelengths, which comprise a very narrow subset of the much larger *infrared* wavelength category that produces heat. We would die without these FIR wavelengths. Readily absorbed by water, these rays promote vital life processes such as egg hatching and cell division. (This is one reason a FIR sauna can be healing, in addition to its function of helping the body sweat to excrete toxins.) Another example of beneficial EM radiation is the minuscule amounts of electrical current (*microcurrent*) produced by the human brain and nervous system, which allows various parts of the body to communicate with each other. A third example of healing EM radiation is a particularly narrow band of *ultraviolet light* (within the larger category of UV light), which acts as a disinfectant and is healing for the eyes and skin.

Detractors of legitimate research like to cite the sun as a natural EM radiation source. They correctly point out that the sun is constantly transmitting EM radiation—radio frequencies, microwaves, and other wavelengths—thus attempting to minimize the dangers of certain EM fields. However, naturally-occurring solar radiation is different from human-made electrosmog. Radiation from the sun is *diffuse*, whereas electrosmog radiation is *coherent* and *concentrated*: one must purposely create, augment, focus, and direct electrons to turn on a light bulb. We evolved under natural, diffuse solar radiation, not the unnaturally concentrated and bombarding radiation from electric lights and other electrical devices. Moreover, our daily exposure today is over a million times higher than the levels of background EM radiation under which we evolved. Put another way:

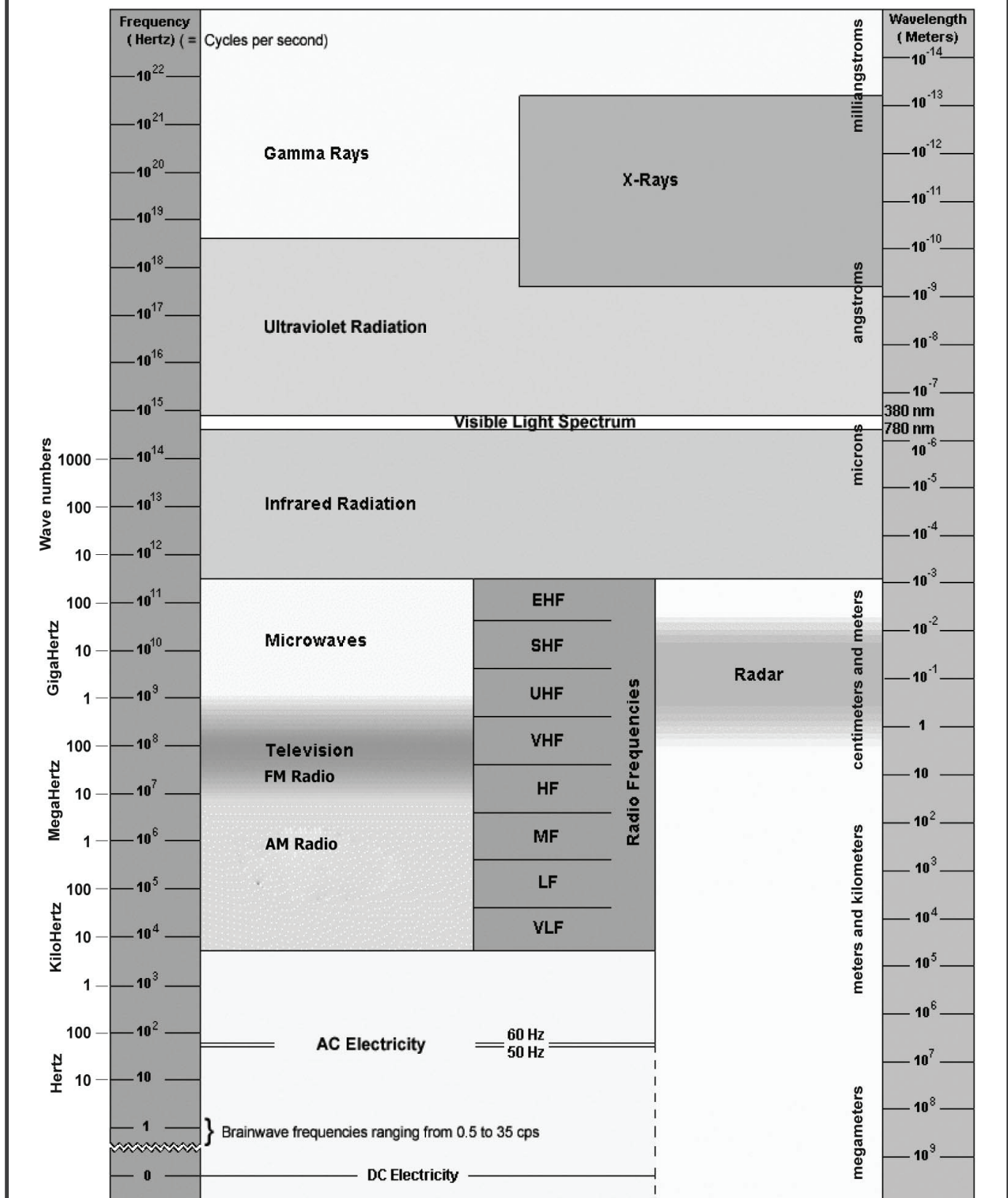
Harmful EM Fields

- ◆ Signals are chaotic, sporadic, and inconsistent.
- ◆ Frequencies are in the range of living cells; combined with the chaos of the signal, they disrupt cellular function.
- ◆ Remove electrons from the body, thus supporting the propagation of free radicals.

Healing EM Fields

- ◆ Signals are coherent, regular, and uniform.
- ◆ Frequencies may be in the range of living cells, but wave coherence makes them compatible with living organisms.
- ◆ Add more electrons to the body, thus helping to inhibit free radicals.

THE ELECTROMAGNETIC SPECTRUM



To summarize, the effects of EM radiation depend on:

- ◆ *Where on the EM spectrum* the wavelengths exist—in other words, *what type of wave* it is.
- ◆ The *concentration*—coherence vs. diffusion—of these wavelengths.
- ◆ The *voltage or force* with which these wavelengths interfere with bodily functions.
- ◆ *How* that radiation is being *transmitted and administered*.
- ◆ *Proximity* of the individual to the source of the field.

All of the above circumstances can literally make the difference between wellness and illness, life and death.

Harmful EM Fields

The Science

Starting from the high-frequency end (top) of the EM spectrum chart, there's *ionizing radiation* (which mainly consists of gamma rays and X-rays), and *non-ionizing radiation* (everything else). Ionizing radiation contains so much energy that it emits single, unbound, unstable electrons called *free radicals*. In an effort to become stable, the free radicals attach themselves to the outer rings of atoms in your body, which in turn displaces your own original electrons—and creates more free radicals in a chain reaction. Free radicals cause major tissue and DNA damage. Ionizing radiation is known to be radioactive, so its harm is generally no longer disputed.

The Politics

Deliberately perhaps, many of the published studies on harmful EM wavelengths have focused on ionizing radiation (gamma and X-rays). In many parts of the world, the dangerous, complex biological effects of non-ionizing radiation have been ignored, trivialized or denied—either due to ignorance, or (more likely) the deliberate manipulation and withholding of scientific data. Many people perceive our everyday electronics (such as cell phones) as so indispensable to our comfort, lifestyle and even survival, that they'd rather overlook the serious health problems that these fields can cause.

The Terminology

Artificially produced electricity that produces harmful EM fields can be either wireless or wired. Here, we will mostly be addressing the non-ionizing frequencies from 0.1 Hz to 300 GHz. This harmful radiation is popularly known as "EMF," short for *electromagnetic fields* (not the engineering term *electromotive force*). Even though the phrase "electromagnetic field" is technically neutral, its designation of harm has become fixed in the popular lexicon. "EMF pollution" is more precise. However, to promote greater accuracy and avoid confusion, I will use the term *electrosmog* (sometimes called *dirty electricity*).

What These Harmful EM Fields Are

Almost everything that runs on electricity emits harmful radiation. From the lowest frequencies to the highest, the wavelengths are:

- ◆ Alternating Current (AC) Electricity, in the Extremely Low Frequency (ELF) range
- ◆ AM and FM Radio Frequencies
- ◆ Television Rays, including Ultra-High Frequency (UHF) and Very High Frequency (VHF)
- ◆ Microwaves

The higher the "G" (generation) rating—1G, 2G, 3G, 4G, and most recent, 5G—the more harmful the technology.

Specific Electrosmog Wavelengths

Extremely Low Frequencies (ELF) in the Alternating Current Electricity Range

How It's Produced. Basic electrical current—the kind we use in our everyday lives—can be produced in two different ways, and they don't affect the body in exactly the same ways.

Thomas Edison, inventor of the incandescent light bulb, developed *direct current* (DC). With DC, there's a steady flow of electrons (current) in one direction. However, Edison found that the current couldn't travel very far without dissipating. This made it necessary to build massive converter boxes at regular locations to increase the force of the flow and propel the electrons forward. Hence, DC was both impractical and costly.

In response to the difficulties of DC, Edison's rival Nikola Tesla (well known for his "free energy" inventions and use of electricity in novel ways) developed *alternating current* (AC). AC electricity travels long distances. To do this, each electron travels a short distance, bumps adjacent electrons, and then returns to its original position. In turn, the adjacent electrons bump electrons next to *them*, return to their original position, and so on. This constant bumping of electrons causes a flow of current through a wire. However, because the direction of the electron flow reverses repeatedly, every time the electrons change direction the field collapses and reappears. The overall charge changes from negative (signifying the presence of electrons) to positive (due to the relative absence of electrons). This back-and-forth direction of electrons disrupts the biological processes in a living body. Also, whereas DC creates a steady magnetic field, AC creates a fluctuating magnetic field, of varying strength, each time the electrons reverse direction—which is likewise disruptive. You might analogize DC as a gentle, steady, continuous stream of water, while AC is the relentless, irregular crash of ocean waves pushing and pulling. DC is gentle to living systems, while AC is destructive.

Biological Effects of AC. Touching the wires or being in the field of any electrical current (DC or AC) can maim or kill you if the power is too high. However, AC is dangerous in another way, at lower power levels that we routinely use. The extremely low frequencies (ELF) in electrical sockets and wiring range from 0.01 Hz to 300 Hz. These are the same ranges in which human tissue oscillates. For example: signals from a low-frequency WiFi pulse are in the same range as signals used by the brain and nervous system, so the brain tries to lock on to WiFi signals and becomes confused. Also, the body of a human (or animal) resonates with, or becomes *entrained* to, the fields to which it's exposed. Thus, when people touch or are near an electrical appliance operating at 60 Hz (in North America) or 50 Hz (in most of the world), that same field is generated in us. Furthermore, electrons flowing through a wire produce magnetic fields, which cause even more problems than electrical current because they affect the iron in the blood and elsewhere, destroying cell membranes and interfering with our electrolytes. Electrosmog crosses the blood-brain barrier, so there's no natural protection in our brains against its effects. And it changes the rotation and spin of electrons in our bodies, altering the chemical bonds of molecules and causing breaks in our very DNA.

This literal change in our DNA has far-reaching repercussions. The nervous system can't process signals properly. Hormone production, calcium exchange and tissue growth are skewed. The pineal gland (which is sensitive to even minute changes in electromagnetic fields) reduces the amount of the hormone melatonin that it synthesizes and secretes. Melatonin is not only required for restorative sleep, but it also helps regulate growth and the cycles of other hormones. And it supports immune function and inhibits the growth of tumors. A melatonin deficiency diminishes one's ability to learn, and is even responsible for depressive states along with sleep disorders and fatigue. The effects of electrosmog on the pineal gland alone account for health problems almost too numerous to count.

It's easy to see why ELF is so dangerous. *Electrical devices overpower the body's natural electromagnetic oscillations, forcing us to resonate in ways that prevent our biological processes from optimally functioning.*

The Swiss Agency for the Environment, Forests and Landscape (SAEFL) acknowledges that certain biological effects occur at exposure levels well below internationally recommended limits—and that as a result, it's wise to take precautions to protect oneself from the damage caused by ELF radiation. Most people don't know that even an electrical socket, with nothing plugged into it, carries "live" electricity that can cause destructive biological effects—particularly if the socket is next to the body for a long time (as in a socket at the head of a bed, where you sleep for the entire night).

Radio Frequencies (RF) and Wireless (WiFi)

Higher up on the EM spectrum are radio frequencies or RF. As with the lower EM bands, radio frequency wavelengths contain both electric fields and magnetic fields. For many years, scientists have known that high levels of RF radiation are harmful because RF can rapidly heat biological tissue (the principle by which microwave ovens cook food), and the body is unable to dissipate the excessive heat. This is especially true of areas such as the eyes and testes that lack substantial blood flow.

Scientists refer to the damage caused by heating from RF as *thermal* (temperature-related) effects. While technically correct, this phrase is misleading because it can imply that if tissue's not heated, there's no damage. But radiation produce significant, sometimes lethal *nonthermal* damage—common with wireless technology or WiFi, which broadcasts in ultra-high frequency bands.

Wireless technology includes internet routers, modems, mobile phones, Bluetooth, cell phones and their towers. WiFi damages the heart as well as the nervous system, which means a higher incidence of heart attacks and neurological disorders including concentration and cognition difficulties. Cell phone radiation causes DNA damage, resulting in inflammatory conditions, infertility, heart disease, and cancer. Brain tumors typically appear on the side of the head favored during cell phone conversations. A phone in a breast pocket increases the chances of breast cancer and heart problems; in a side pocket near the groin area, cell phones promote infertility. WiFi against the body causes a rapid deterioration of health; but even WiFi near a person causes considerable damage. It's even making bees desert their hives. And the newer proposed "5G" WiFi is just as dangerous. Resonating in the frequency of sweat glands, it prevents people from perspiring.

Sensitivity To Electrosmog Escalates

Sensitivity to electrosmog is known as *electrosensitivity*. People who are bothered by electrosmog are known as *electrosensitive*. Electrosmog damage is exponential. Repeated, unremitting exposure exacerbates any underlying weakness and causes new health problems to arise, including degenerative conditions and increased susceptibility to infectious diseases. The dangers of electrosmog been known since even before the 1960s.

A good health practitioner investigates a client's environment. This includes exposure to not only chemicals, but also to electrical and magnetic fields. People may need to rewire their house or unplug appliances (particularly those near their bed)—or even move to a different home entirely to avoid nearby cell towers and major power lines. There are many reports of both humans and their pets developing similar conditions, including cancer. Once the electrosmog is eliminated, the people and animals become well.

Health Problems Worsened or Outright Caused by Electrosmog

- ◆ Allergies of all types
- ◆ Arthritis, including rheumatoid arthritis
- ◆ Autoimmune disorders, including Multiple Sclerosis and lupus
- ◆ Birth defects, genetic abnormalities, infertility, miscarriage, problem pregnancies, stillborn births
- ◆ Blood sugar problems, including “brittle” diabetes
- ◆ Cancers, including brain tumors and leukemia
- ◆ Cardiovascular problems: increased incidences of heart attacks, chest pain, erratic pulse, high blood pressure
- ◆ Digestive disturbances, including poor absorption of food, leaky gut, nausea, and vomiting
- ◆ Emotional distress, including excessive anxiety, irritability, mood changes and panic attacks, along with a higher-than-average suicide rate
- ◆ Ear problems, including noise sensitivity and tinnitus
- ◆ Eyestrain, deteriorating vision, cataracts
- ◆ Fatigue, excessive and unremitting
- ◆ Fibromyalgia, chronic pain, excessive inflammation
- ◆ Headaches and migraines
- ◆ Hormonal abnormalities of all kinds
- ◆ Immune malfunction, resulting in abnormally high levels of infections and inflammation
- ◆ Insomnia and other sleep disturbances
- ◆ Infections, all, increased or exacerbated (pathogens go into “alarm” mode when exposed to electrosmog)
- ◆ Nervous system disorders: confusion, convulsions, dizziness, hyperactivity, memory loss (including Parkinson’s and Alzheimer’s), seizures
- ◆ Respiratory issues, including asthma
- ◆ Skin disorders: burning, tingling, rashes, pain
- ◆ Stress increase and intolerance, in part due to adrenal gland impairment

Contributors to Electrosmog Sensitivity

- ◆ Electrosmog exposure that’s cumulative, over a long period of time
- ◆ Electrosmog exposure at dramatically high levels (either a single exposure, or several exposures)
- ◆ Health issues that are pre-existing
- ◆ Heavy metal toxicity
- ◆ Immune impairment
- ◆ Iodine deficiency
- ◆ Lyme disease, and any other illness (such as cancer) that has substantially impaired immune function
- ◆ Stress—either high levels, or repeated (how much stress, and what kind, depends on the individual)

Common Electrical Items that Produce Electrosmog

- ◆ Air conditioner
- ◆ Airport scanner (well known to emit dangerous ionizing radiation from high-intensity X-rays)
- ◆ Chargers for cell phones, laptops, tablets, etc.
- ◆ Clock, clock radio
- ◆ Clothes dryer
- ◆ Computer, monitor, printer, scanner, photocopier
- ◆ C-PAP machine (used for sleep apnea)
- ◆ DVD or Blu-Ray player, amplifier
- ◆ Electric blanket, water bed
- ◆ Fan (on floor or ceiling, and in computers)
- ◆ Hair dryer, curling iron
- ◆ Heater (portable)
- ◆ Hot plate
- ◆ iPad, iPod, Android, Kindle, any portable reader
- ◆ Iron (for clothing)
- ◆ Kitchen appliances: blender, dishwasher, food processor, mixer, electric oven/range, refrigerator, toaster, microwave oven (in the Gigahertz range)
- ◆ Light bulb, especially compact fluorescent (emits RF and UV, and contains mercury)
- ◆ Phones: cell, cordless, bluetooth, answering machine (corded is safer; it doesn’t constantly transmit signal)
- ◆ Power tools: drill, saw, electric screwdriver
- ◆ Shaver (electric razor)
- ◆ Smart meter (allegedly installed to regulate electrical usage, it’s highly dangerous and inaccurate)
- ◆ Television and radio transmitter
- ◆ Stereo equipment and amplifier
- ◆ Vacuum cleaner
- ◆ Washing machine
- ◆ ...living near a cell tower, high-voltage power line, transformer station, railway, or radar installation

Just A Few Scientific Sources (also see Appendix I)

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What To Do About Electrosmog (Dirty Electricity)

Make Sure Your Electrical Wiring and Outlets Have Been Properly Designed and Installed

Faulty wiring causes intense stray magnetic fields. These magnetic fields often appear in homes that have been built on a budget (and quickly), and in buildings erected before the 1960s, which used crude wiring methods. Magnetic fields result from a lack of shielding, improper grounding, or both.

Shielding refers to the various ways in which electrical wiring is physically covered with various materials, or configured so that stray magnetic fields are eliminated. *Grounding* means that the excess charge (electrons) from wiring are returned to the ground or soil (Earth), thereby eliminating the possibility of short-circuiting or harming a living body with stray current.

A *gauss meter* measures magnetic fields. A meter measuring only field strength costs under two hundred dollars; more expensive ones detect the frequencies as well. An *outlet tester* shows whether that socket is properly grounded, and costs less than ten dollars.

If you live in an old house or sense that your illness could be due to electrosmog, call a licensed electrician who can inspect and clear your environment.

Avoid Close Proximity

Electrosmog is significantly higher in equipment that emits strong magnetic fields. This includes appliances that generate lots of heat (broilers, hair dryers, hot plates), that contain magnetic coils or transformers (TVs, low-voltage halogen and fluorescent lamps, clock radios), or are equipped with electric motors (drills, blenders, vacuum cleaners). Limit the time you spend with them. Note that as the distance from the source of a magnetic field increases, the intensity of the field exponentially decreases. So, depending on the item, keep it between one foot (about 30 centimeters) and three feet (60 or 90 centimeters) away. Magnetic fields penetrate solid objects, so be aware of what's on the other side of a wall, especially the wall at your bed.

- ◆ Turn off or unplug surge protectors and equipment that you're not using. Even when off, appliances consume electricity and still produce magnetic and electric fields. Install a *demand switch* to automatically turn off unused electrical currents.
- ◆ You can't avoid wireless from public facilities or neighbors, but you *can* control your home. Don't use wireless Internet! (Wired Internet is faster anyway.)
- ◆ Use your cell phone on speaker or with a wired (not Bluetooth) headset. *When not using it, turn it off.*
- ◆ Don't put a laptop, tablet or cell phone on your body.
- ◆ Engines on trains, cars and planes produce strong magnetic fields. An enclosed metal structure can intensify electrosmog. See next column.

Equipment and Tools to Shield, Protect and Normalize

The new 5G wireless technology resonates in the wavelength of our sweat glands—which are like antennas for 5G—and can thus interfere with our ability to sweat. Even if you don't own a cell phone, you'll absorb the radiation simply by being near a 5G cell tower. Few people will be able to avoid sources of electrosmog, so protective tools seem mandatory.

Products either *shield* or *block* radiation, or *harmonize* or *neutralize* the radiation so that it no longer causes problems. Some of the products are placed around or on an electrosmog-emitting appliance (cell phone, computer, etc.), while others are worn or placed on the body. A few items run on electricity; most do not. The protective ability of some products is shown with "before" and "after" photos of live blood taken through a darkfield microscope. While exposure to a cell phone will produce abnormally flattened, clumped red blood cells (indicating low voltage and oxygen levels), photos after exposure to an EMF protector/neutralizer will show normal separate, round blood cells (indicating higher voltage and oxygenation). Other tests include Kirlian photography, Gas Discharge Visualization (GDV), and of course whether one's health improves.

Make sure the product doesn't absorb harmful radiation. If you don't know when to clear it, you could absorb electrosmog from the very tool you're relying on to protect you. Below, a small sample of EMF protectors.

Items that Shield. Some materials block stray magnetic and electric fields. These include rare earth, a mineral; Mu metal, an alloy used to shield electronic components; and fabrics and paints imbued with materials that reflect or ground radiation. See lessemf.com.

Items that Harmonize or Neutralize. Jewelry, decals, and pocket-size items made of stone, metal or ceramic can be imbued with frequencies; and some liquids and solid materials (especially in crystalline form) can be imprinted. Some tools passively emit an energy field that transforms the chaotic electrosmog into more organized, gentler wavelengths. Others directly strengthen one's energy field and help the body withstand the harm from electrosmog. Some products that may help are made by Aulterra, Earthcalm, Energyintegrity, Eradicator Technologies, and Tuning Element (see Appendix A).

The Pulsed Technologies electronic VitaSet Generator emits all of the Schumann Resonances, including the best-known 7.83 Hz. Humans originally evolved and resonated to these frequencies (see Chapter 5). According to Dr. Patrick Flanagan, iron oxide powder (sold as jewelers rouge) emits 7.83 Hz when exposed to an EM pulse. Three tablespoons mixed in a gallon of paint or glue, and applied in small amounts to a cell phone, computer, light or appliance, will focus the body on this restorative resonance instead of electrosmog.

Noise Pollution

Noise pollution is any unwanted, disturbing sound that interferes with the ability to sleep, converse, or hear. Until relatively recently in Earth's history, the concept of noise pollution didn't even exist because there were very few causes of constant, excessive noise. But today, outside, there's construction, road traffic, and aircraft. Indoors, in the average home, any appliance—including, but not limited to, a hair dryer, refrigerator, vacuum cleaner, coffee grinder, washer, dryer, radio, television or power tool—adds to the ambient noise level (not to mention the harmful EM fields emitted by these electric devices).

In order for a sound to be regarded as noise pollution, it must be either frequent or constant, as well as loud—usually above 55 decibels (dB). (A *decibel* is a measurement of loudness. The human ear subjectively perceives a sound as twice as loud when the volume increases by 10 dB.) Noise over 80 dB can cause ringing and pressure in the ears and hearing distortions, with eventual hearing loss. At 110 dB, noise can cause pain; and at 135 dB, permanent deafness. The physiological component to abnormally loud and relentless noise is the damage of the delicate hair cells in the inner ear, cells that are replaced with scar tissue.

Aside from damage to the ear, the stress from noise pollution causes problems ranging from stroke, high blood pressure and heart attacks to nerve conditions (including epilepsy and loss of balance) to gastrointestinal distress such as ulcers. Emotional agitation may be so intense, it leads to suicide. In 2011, it's estimated, 20% of North Americans over 12 years of age suffered from hearing loss.

Interestingly, after repeated exposure to high noise levels, people often still “hear” the offending sound, even long after the noise has stopped.

Injury

The relationship between injury and infection is complex but easy to recognize, once you understand how injury can lead to illness.

Inflammation is the body's way of dealing with irritation—whether the irritation is caused by pathogens (infection), chemicals, physical trauma, heat, or toxins. During inflammation, various scavenger cells gather at the problem site to ingest dead and damaged tissue. The scavenger cells also act as a cushion or barrier between the local damaged cells and the surrounding healthy tissue. In addition, blood supply increases to bring extra nutrients, oxygen, and hormones to the repair site. *Infection*, on the other hand, is a pathological, diseased state of the tissues involving harmful microbes. They force their way into our cells and introduce waste that doesn't belong: the byproducts of their own metabolic and survival

functions. *This is the point at which inflammation due to injury can cause infection.* If scavenger cells cannot digest injured tissue quickly enough, the damaged cells will putrefy. Then, pathogens proliferate in the area because they have an excellent food source—you. Now, the body's inflammatory response is no longer useful but harmful, as circulation is further impaired and even more swelling occurs. (At this point, to eliminate the swelling, alternating heat and cold are applied, via water, hot and cold packs, and even a sauna and plunge into a cold pool.)

Any debris of any origin that remains in the system without being eliminated, can cause inflammation and eventually infection. Sudden physical shock that causes tissue damage can aggravate already existing problems and bring pathogens to an area where previously there were few or none. This is why an accidental injury can cause long-term or even permanent harm. What began as a mechanical stress becomes a biochemical issue.

Inflammation

There's an inflammatory response, often independent of injury, that scientists now recognize as responsible for not only infections, but virtually all degenerative conditions (including autoimmune disorders, insulin resistance and arthritis). This inflammatory response is caused by a group of tiny proteins called *cytokines*. Among their other functions, cytokines instruct different types of immune cells to fight infection; and in turn, the immune cells produce more cytokines until the job is complete. However, due to stress (with its high cortisol levels) and other factors, an overproduction or malfunction of cytokines, called a *cytokine storm*, develops. These cytokines deliver faulty messages to the immune cells, which produce yet more cytokines. Due to this feedback loop that the body cannot halt, massive inflammation develops. In turn, the inflammation can cause infection.

Ironically, chronic infection can also cause cytokine storms, which leads to inflammation and yet more infection. A highly pathogenic invader, or other unusual assault on the immune response (such as toxic metals), can trigger a cytokine storm.

Inflammation corresponds to high oxidative stress, reduced blood flow, and acidic pH. See below.

pH Imbalance

A major contributor to illness is a disturbance in pH, or levels of acidity and alkalinity in the body's various fluids and tissues. (Popular usage states that pH means “power of hydrogen” or “potential of hydrogen,” but the term is actually derived from “p,” a mathematical symbol

According to conventional medicine, when the blood pH is over 7.45, it's too alkaline. However, Dutchman Wim Hof has measured significantly higher (alkaline) blood levels, sometimes up to 7.75. He teaches a breathing technique that increases the capacity of red blood cells to carry oxygen for extended periods, thus lowering systemic carbon dioxide levels and raising oxygen levels. As a result, he and his students who practice this protocol enjoy greater immunity, more energy, improved tissue function, and an augmented sense of well-being. Evidently, a new model for optimal blood pH—if not overall health—is needed.

used to make the negative logarithm calculation, and “H,” the chemical symbol for hydrogen.) Technically, as a measurement, *pH* denotes the concentration of hydrogen ions in a water-based solution. (An *ion* is a charged particle that has gained or lost one or more electrons.) *When ions are present in a liquid, electrical energy can be conducted through the solution.* In a liquid, different elements form ions in varying amounts, depending on the ability of the atoms to gain or lose electrons. These atoms dissociate (ionize) in solution to form hydrogen ions (H⁺) or hydroxyl ions (OH⁻). Even though pH selectively measures only hydrogen ion activity, it refers to both acidity and alkalinity because the lessening or absence of H⁺ implies an increase or the sole presence of OH⁻.

Why is this dry bit of chemistry relevant? The minerals dissolved in solution not only determine the presence of hydrogen ions and hydroxyl ions, but they also act just like batteries and *conduct an electrical charge*. This allows nutrients to enter the cell and wastes to leave. If the electrical charge of the cells and bodily fluids is too weak, our bodies don't work properly and we become ill.

Depending on the presence or absence of H⁺ and OH⁻ ions, the solution will be acidic, neutral or alkaline. If the H⁺ concentration is greater than OH⁻, the material is acidic. The concentration of hydrogen ions is measured on a scale of 0 to 14. The pH values of acids range from 0.0 to 6.9 (less than 7.0). If the OH⁻ concentration is greater than H⁺, the material is alkaline or basic. The pH values of bases range from 7.1 to 14.0 (greater than 7.0). If equal amounts of H⁺ and OH⁻ ions are present, the material is neutral, at exactly 7.0. Note that the numbers on the acidity/alkalinity scale do not represent equal divisions. Each number higher than the one before it represents an exponential increase: 1 is ten times greater than 0; 2 is ten times greater than 1 or one hundred times greater than 0; 3 is ten times greater than 2 or one thousand times greater than 0, and so on. This means that even a small change in the measurement of acidity matters a great deal.

There's a popular conception in health-conscious circles that one must have an “alkaline” system. However, this notion is simplistic and inaccurate. Some areas of the body need to be acidic and other areas, alkaline. Normal skin has natural surface acids that form a protective barrier. Saliva must be alkaline because it digests starches (carbohydrate digestion begins in the mouth). And the stomach's hydrochloric acid must remain at about a 2.0 pH, which is very acidic. Hydrochloric acid helps the inactive form of pepsin convert to its active form, and thus digest animal and vegetable proteins.

The body's tissue pH and its fluid pH are related. Salivary pH indirectly reflects the pH inside a cell membrane, while urinary pH reflects the extracellular fluid. When cells detoxify, the extracellular pH rises (allowing cells to dump more toxins), and urinary pH falls (reflecting this housecleaning). If some regions become excessively alkaline, other areas become excessively acidic in response. This is why testing only urine, or only saliva, provides an incomplete biochemical portrait. Also, there's an inverse relationship between acidity in the stomach and acidity in the body. The more desirably acidic the stomach is, the more desirably alkaline the body tissues are; and the more undesirably alkaline the stomach is, the more undesirably acidic certain parts of the body are. (Sufficient hydrochloric acid in the stomach means that no undigested food particles will leak through the intestinal wall to lodge in cells as irritating, usually acidic wastes.)

Conventional medicine tells us that the one body area whose pH *must* stay within a very narrow range of alkalinity is the arterial blood plasma. (The watery blood plasma is a liquid—entirely separate from the round red blood cells that float in it, and whose iron content gives the blood its red color.) With a sub-optimal pH, the red blood cells don't release enough oxygen to the tissues. The ideal pH for blood plasma is typically cited as not less than 7.35 and not more than 7.4 or 7.45 (the upper limit), depending on what source you read. If the blood deviates too much from its ideal pH for too long, the person becomes sick and dies.

The job of *regulating* the acid-alkaline levels belongs to the respiratory tract, the chemical and physiological buffering system (which includes the liver), and the urinary tract. The respiratory tract alters the rate of carbon dioxide ventilation from the bodily fluids. This in turn changes the ion concentration through a series of biochemical processes. The chemical and physiological buffering system of the body undergoes a number of different steps to produce special biochemicals that also counteract the acidic pH imbalance in the blood plasma.

It's the urinary tract (the kidneys in particular) that most efficiently *eliminates* acids. However, this method

has its limitations. No matter how hard the kidneys are forced to work (assuming they don't become overloaded), there's only so much acidity they can eliminate. The blood transports excess acid to the kidneys only a little bit at a time, and slowly. After the kidneys have excreted all they can, if excess corrosive acids and acid-forming substances still threaten to damage the bloodstream, the acids are simply relocated elsewhere in the body to protect the blood. These toxins get stored in the extracellular fluids (fluids surrounding the cells), the connective tissue, the joints, and even the organs.

Metabolic wastes accumulate in the system more easily than people realize, which is how a chain reaction of deterioration in bodily functions starts to occur. Autointoxication—being poisoned by one's own toxic wastes—lays the foundation for degenerative conditions including arthritis and bone loss, allergies, cardiovascular problems, diabetes, fibromyalgia, kidney stones, and even cancer. This is why cleansing and detoxification are so central to natural medicine.

Storing overly acid or alkaline wastes in the tissues to get them out of the bloodstream—while a necessary and viable intervention by the body—is, at best, an emergency, short-term solution to a pH imbalance. Bone loss is a good example of a highly unbalanced, overly acidic system. It also graphically illustrates a malabsorption or shortage of calcium and other minerals, which are key factors in maintaining the proper pH. Most of the calcium we ingest is not used for bone construction, but instead freely circulates in the body to be utilized in various metabolic processes, including the neutralization of systemic acids. The blood's pH balance is so crucial that when no more calcium is available, the body leaches it from the bones. This is why getting sufficient calcium is so important. However, the calcium must be balanced with other nutrients, including Vitamin K2, magnesium and boron, which help the body absorb and utilize the calcium. Otherwise, bone loss and other symptoms commonly associated with calcium deficiency occur, due to the excess calcium that's disintegrating the bones. Note that there are acid-forming and alkaline-forming varieties of calcium, and different people require different forms.

As I hope you're beginning to see, testing for pH, interpreting the results, and correcting imbalances isn't simple! Although a disturbed pH can be due to many factors, the converse is also true: a pH imbalance can augment already existing conditions or even cause new ones. Sometimes a seriously ill person can become well just by correcting the pH. Please consult a practitioner who understands body chemistry and your unique nutritional needs. Whatever the issue, though, eating lots of greens or drinking chlorophyll in water can help everyone.

Proliferating Pathogens

Harmful microorganisms are an obvious component of illness. The same unbalanced pH that contributes to tissue deterioration also allows bacteria, viruses, parasites and fungi to grow. The speed of pathogen proliferation also depends on glucose and oxygen levels. Harmful microbes love sugar and most thrive in a low-oxygen environment.

In the body, pathogens steal nutrients from the foods you eat. They also excrete waste. Wastes from fungi, called *mycotoxins*, are particularly nasty. (*Myco* is from the Greek word *mykes*, which means “fungus.”)

The corpses of these microorganisms can also toxify. Sometimes a leukocyte (white blood immune cell) attacks, immobilizes and devours a pathogen whole. However, this scenario is not always possible. In many people who are ill—particularly if they have chronic conditions—the immune cells are not plentiful enough, or functioning well enough, to scavenge the invaders whole. Instead, a portion of the pathogen breaks apart, spewing its toxic waste into the bloodstream. (Many of these microorganisms, when threatened or dying, leak toxins from their walls to defend against a counterattack by the host.) A pathogen may also rupture, rather than simply become immobilized, due to drugs or anti-microbial herbs in the system, or electromedicine protocols (such as Rife Therapy) that use beneficial frequencies to devitalize microorganisms.

Most people haven't heard of the mycotoxin called *acetaldehyde*, which is excreted by *Candida albicans*. They are, however, familiar with acetaldehyde's *breakdown* products, which are also found in many foods: oxalic acid, uric acid, and alcohol.

Oxalic acid is a common food toxin, present in large amounts in tomatoes. If foods containing oxalic acid are eaten by a susceptible person continually, in large enough quantities—as in the concentrated form of tomato sauce—oxalic acid can cause inflammation in the joints.

Uric acid cannot be destroyed by the body. If the acid isn't excreted by the kidneys, it crystallizes as kidney stones.

As for alcohol, reframing this legal drug as a toxin offers a different perspective from how it's ordinarily viewed. Alcoholic beverages are produced when a fruit or grain is allowed to ferment. During the fermentation process (which by definition takes place in the absence of oxygen), the yeast feeds on the food sugars and excretes the desired alcohol. But alcohol is actually a waste product—yeast poop! Its rapid metabolism by the body can cause liver damage. And alcohol interrupts the transmission of signals across neurons, which people experience as intoxication and for the most part consider enjoyable.

The foul waste from pathogens is commonly known as *die-off*. As sick people know, die-off feels terrible. The more noxious the waste is that's discharged into the body, the more ill we feel. The body reacts to this assault by registering pain (the nerves are being irritated by toxins), by malfunctioning (microbial toxins further disrupt the body's pH and impede waste removal), or by swelling (to contain the infection). Chapters 3 and 4 address how to deal with this waste.

Toxic Bodily Responses

Illness can result from noxious biochemicals, hormones, or other *endogenous* substances—*produced by the body itself*—in response to microbial or any other toxins.

One example is a *cyst*, or a sac that contains liquid. Cysts form around foreign material in the body to contain it and prevent the rest of the system from being poisoned. Conventional doctors often perceive a cyst as the medical condition itself rather than as an expression of a deeper malfunction. In their paradigm, the cyst is the cause of a problem rather than the effect. The body's attempts to protect itself, while not always convenient or efficient, do demonstrate an effort to achieve equilibrium. The holistic model recognizes that the body's formation of cysts is related to an impaired waste removal function.

Another example of a toxic bodily response is deranged macrophage activity. Primarily located in the bloodstream and connective tissue, a *macrophage* is a type of white blood cell that recognizes, engulfs and destroys pathogens, the body's own dead cells, and other microscopic debris. However, the immune function of these cells can fail if the body signals too much inflammation. When there's an overabundance of inflammatory cytokines, macrophages (and other cells) release the protein-digesting enzyme *protease* into the tissues, causing severe damage. Once the body's tissues are damaged, the cells leak magnesium and potassium, allowing an influx of water and sodium. This causes a reduction of cellular charge (electrons), with a concurrent oxygen shortage. In the absence of oxygen, the cells must now burn fuel in a different, less efficient way. This inefficient burning of fuel now produces *lactic acid*, a byproduct of *anaerobic* (oxygen-deprived) metabolism. To protect themselves from this excess acid, the cells dump it into the extracellular fluids. The acidic waste buildup, in turn, leads to pathogen proliferation and even cancer.

One more example. In people of normal weight, the macrophages in fat heal wounds. In obese people, the macrophages promote inflammation and insulin resistance.

Toxic bodily responses are always related to illness.

Lack of Exercise and Movement

Exercise is now part of every holistic and conventional health program. Sitting at desks daily, for hours at a time, is not part of our evolutionary development. We were naturally made to move. Even gentle walking pumps the lymph tissue, makes our hearts stronger, and helps the body create its own endorphins, those biochemicals that elevate mood and stem inflammation. See Chapter 3, **Exercise**, for more information.

Emotions and Belief Systems

The final, but very important, component to becoming ill is one's emotional state and belief systems.

Emotional states include joy, anger, love, rage, sadness, and excitement. "E-motion" is *energy in motion*, which corresponds to the body's electrical and chemical messengers. Electrical messengers are the charge that energizes the nervous system. Chemical messengers are the minute amounts of hormones that circulate throughout the bloodstream. For instance, fear and depression occur simultaneously with the outpouring of the fight-or-flight corticosteroid adrenal hormones.

A feeling can be divided into two parts: the emotional content, and the urge to express the emotion through action. For instance, love (the emotion) is a tangible energy or charge. It builds up, expanding the heart and chest cavity in a pleasurable way. When the energy substantially accumulates, people feel a need to discharge that energy. This is often done through a hug or other affectionate touch (the act), which allows the built-up energy to flow out from the chest through the shoulders, arms and hands. Sadness (the emotion) is accompanied by crying and sobbing (the act) to discharge the energy, and so on.

Holding back from expressing an emotion generally begins as a conscious behavior, and people are aware of their choice. But over time, if the emotional issue is not resolved, this holding back becomes unconscious or automatic, beneath one's level of awareness. At one time or another, most of us have probably held our breath when faced with dread, fear, or other uncomfortable emotions. More chronic, habituated responses to avoid feeling deeply include shallow breathing (which inhibits the natural biological response or *act* of vocalizing those emotions) and biting the lower lip and tensing the abdominal muscles and diaphragm (to prevent sobbing). Once the reason for holding back is not addressed, the muscular contraction that initially was deliberate becomes automatic, so the person is no longer aware of the emotion being held in the tensed muscles.

Bruce Lipton, PhD on Epigenetics: Your DNA Is Not Your Destiny

Medicine does miracles, but it's limited to trauma. The AMA protocol is to regard our physical body like a machine, in the same way that an auto mechanic regards a car. When the parts break, you replace them—a transplant, synthetic joints, and so on. . . .

The problem is . . . while they have an understanding that the mechanism isn't working, they're blaming the vehicle for what went wrong. They believe that the vehicle, in this case our bodies, is controlled by genes.

But guess what? They don't take into consideration that there's actually a driver in that car. The new science, epigenetics, reveals that the vehicles—or the genes—aren't responsible for the breakdown. It's the driver.

Conventional medicine is operating from an archaic view that we're controlled by genes, [misunderstanding] . . . the nature of how biology works. . . . [But] our health is not controlled by genetics. . . . Epigenetics [is] the study of inherited changes in phenotype (appearance) or gene expression caused by mechanisms other than changes in the underlying DNA sequence. . . .

It used to be that we thought a mutant gene caused cancer, but with epigenetics, all of that has changed. I placed one stem cell into a culture dish, and it divided every ten hours. After two weeks, there were thousands of cells in the dish, and they were all genetically identical, having been derived from the same parent cell. I divided the cell population and inoculated them in three different culture dishes. Next, I manipulated the culture medium—the cell's equivalent of the environment—in each dish. In one dish, the cells became bone, in another, muscle, and in the last dish, fat. This demonstrated that the genes didn't determine the fate of the cells because they all had the exact same genes. The environment determined the fate of the cells, not the genetic pattern. So if cells are in a healthy environment, they are healthy. If they're in an unhealthy environment, they get sick.

With fifty trillion cells in your body, the human body is the equivalent of a skin-covered petri dish. Moving your body from one environment to another alters the composition of the "culture medium," the blood. The chemistry of the body's culture medium determines the nature of the cell's environment within you. The blood's chemistry is largely impacted by the chemicals emitted from your brain. Brain chemistry adjusts the composition of the blood based upon your perceptions of life. So this means that your perception of any given thing, at any given moment, can influence the brain chemistry, which, in turn, affects the environment where your cells reside and controls their fate. In other words, your thoughts and perceptions have a direct and overwhelmingly significant effect on cells.

The function of the mind is to create coherence between our beliefs and the reality we experience. What that means is that your mind will adjust the body's biology and behavior to fit with your beliefs. If you've been told you'll die in six months and your mind believes

it, you most likely will die in six months. That's called the nocebo effect, the result of a negative thought, which is the opposite of the placebo effect, where healing is mediated by a positive thought. . . .

People are aware of their conscious beliefs and behaviors, but not of subconscious beliefs and behaviors. Most people don't even acknowledge that their subconscious mind is at play, when the fact is that the subconscious mind is a million times more powerful than the conscious mind and that we operate 95 to 99 percent of our lives from subconscious programs.

Your subconscious beliefs are working either for you or against you, but the truth is that you are not controlling your life, because your subconscious mind supersedes all conscious control. So when you are trying to heal from a conscious level—citing affirmations and telling yourself you're healthy—there may be an invisible subconscious program that's sabotaging you. . . .

Once you become aware of the fact that invisible programs from the subconscious mind are running your life, then you are responsible for it. Becoming aware means accessing the behavioral programs in your unconscious mind so that you can change the underlying limiting or self-sabotaging thoughts that don't serve you. It's easy to figure out the nature of your subconscious programs. Just take a look at the character of your life. It's a printout of your subconscious programs. The things you're having trouble with are because of that programming.

You can rewire yourself. . . . If a disease such as cancer has progressed to an advanced stage, then you might do a round or two of chemo, but at the same time you need to be reprogramming your mind and recognizing your involvement in the disease. You must recognize that you are a participant in the unfolding of your life. Then you can go into your subconscious program and find out where the problems are. . . . Through processes such as hypnosis, subliminal tapes, the religious use of affirmations, Buddhist mindfulness, or a series of reprogramming modalities collectively referred to as energy psychology, such as PSYCH-K®, Emotional Self-Management (ESM), Eye Movement Desensitization and Reprocessing (EMDR), and Emotional Freedom Techniques (EFT)™, among many other new techniques, we can rewrite those destructive programs that occupy our subconscious field.

The amount of money you have invested in a belief system ("Doctors have the authority; I am ruled by my genes; drugs are the only cure") determines how willing you are to change it. . . . Medical institutions are operating on fear. The funding and regulatory elements know that within each of us is the power to heal.

quoted from an interview with Bruce Lipton, PhD,
cell biologist and former associate professor of anatomy,
University of Wisconsin School of Medicine.

adapted and excerpted from
bruce-lipton.com/resource/article/epigenetics

Awareness of emotions means the ability to choose to act on them, or not act on them while having the option to release or transmute them. But being unaware of emotions extracts a price: the chronic tightening of muscles (including the diaphragm), organs, glands and even skeletal tissue. This constriction prevents nutrients as well as oxygen from reaching the tissues, which contributes to the accumulation of waste products and an unbalanced pH.

The suppression and mismanagement of emotions also contribute to illness because tension, upset and worry—which corresponds to the adrenal secretion of fight-or-flight biochemical messengers—create excess acidity in the system. In this unnatural, overly acidic condition, pathogenic microbes proliferate.

Emotions and beliefs are not the same, although they are related to each other. Belief systems are our thoughts about how the world operates (which we call “reality”). Belief systems are based on what we have been taught, and what we probably experienced. For example, someone with loving parents who helped her feel secure and wanted would be likely as an adult to view the world as a safe place, where her needs are easily met. But someone whose parents wanted her to conform to their own standards rather than accepting her for who she really was, might later view the world as a place of conflict and struggle. To these two people, the world is a radically different place.

We can influence our health by changing our physical environment, which can positively affect our emotional states. Conversely, we can change our belief systems and emotional states, which can positively affect the condition of the body. People whose illnesses are caused or strongly influenced by emotional states would benefit from some form of psychological healing that focuses on the emotions. Unfortunately, the role that emotional factors play in our health is sometimes distorted and derided by both doctors and laypersons, who use the pejorative term *psychosomatic illness*. This implies that because the diseased state is “all in one’s mind” it’s somehow not real, and thus not worth considering. But *psychosomatic* simply refers to the connection between mind and body. The emotional and mental components of illness are as important as the physical. Sometimes, simple love is the ingredient that’s missing in our lives. The restoration of love—and hence the sense of connection to oneself and others—is an essential component of healing.

At the very least, maintaining a genuinely positive outlook will enhance the quality of your life. At most, positive emotions could save your life. See Chapter 6 for revolutionary experiments in this arena.

The art of medicine
consists in amusing the
patient while nature
cures the disease.

—Voltaire
French novelist, critic, humorist
(1694–1778)

PRESCRIPTION PHARMACEUTICALS

How Drugs Work

Drugs are designed to accomplish one of three goals (which can overlap). They numb the body so symptoms are not felt. They substitute for a bodily function. Or they substitute for a substance that the body produces. For example, painkillers are taken for a migraine, antibiotics are taken when the immune cells are too overwhelmed to handle a huge increase of bacteria, and insulin is taken when the pancreas cannot produce enough of its own.

Drugs are not usually accompanied by therapies designed to correct the imbalance for which the drugs were prescribed in the first place. However, if the *reason* for the deficiency or malfunction is not addressed, the drug may end up harming the person in ways that are worse than the disease. The longer the drug is taken, the greater the possibility of harm. For instance:

- ◆ Every drug has so-called side effects.
- ◆ The person may become so resistant to the action of a drug that the condition the drug was designed to correct may become more intense or severe.
- ◆ The person may become so unbalanced from the effects of a drug that another condition arises. This appears to create a need for another drug, which in turn produces more symptoms (called “side” effects by the medical profession), for which the person may be prescribed yet a third drug. And so on.
- ◆ The bodily function that the drug is replacing may decline, or altogether fail, from lack of activity. This deficit would then require immediate intervention—in the form of another drug or surgical replacement.

The medical phrase “side effects”—which really means *toxic* effects or *drug poisoning*—is deliberately misleading. *All* results and influences of medicines are “effects.” The pharmaceutical industry has fabricated the phrase “side effects” to discourage us from focusing on negative reactions to a drug.

Some “side” effects that the drug industry calls “toxic reactions” are actually *life-threatening*. Toxic reactions are said to occur when too high a level of the drug is in the person’s blood. But “toxic” means *poisonous*. A toxin is a poison. If a drug is poisonous, isn’t *any* level of the substance in the blood “too high”? Chemist Udo Erasmus comments, “Side effects (which are toxic reactions by our body to toxic substances) are not only acceptable, but

are the rule in drug-oriented medical practice, because all drugs are foreign to the body and therefore all drugs are toxic.”⁷ Drugs are toxic partly because they are synthesized from more complex substances that ordinarily take more time to work—and which contain “inactive” ingredients that help buffer (or eliminate entirely) the negative effects. I will say more about this shortly.

The foreignness of drugs to the body is also due to their broad-spectrum approach—an approach that conflicts with how the body processes its own internally produced biochemicals. Cellular biologist Bruce Lipton, author of *The Biology of Belief*, explains:

One of the most ingenious characteristics of the body’s sophisticated signaling system is its specificity. If you have a poison ivy rash on your arm, the relentless itchiness results from the release of histamine, the signal molecule that activates an inflammatory response to the ivy’s allergen. Since there is no need to start itching all over your body, the histamine is *only* released at the site of the rash. Similarly, when a person is confronted with a stressful life experience, the release of histamine within the brain increases blood flow to the nervous tissues, enhancing the neurological processing required for survival. The release of histamine in the brain to deal with stress behaviors is restricted and does not lead to the initiation of inflammation responses in other parts of the body. . . . [It] is deployed only where it is needed and for as long as it is needed.

But most of the medical industry’s drugs have no such specificity. When you take an antihistamine to deal with the itchiness of an allergic rash, the ingested drug is distributed systemically. It affects histamine receptors wherever they are located throughout the entire body. Yes, the antihistamine will curb the blood vessels’ inflammatory response, dramatically reducing allergic symptoms. However, when the antihistamine enters the brain, it inadvertently alters neural circulation that then impacts nerve function. That’s why people who take over-the-counter antihistamines may experience allergy relief and also the side effect of feeling drowsy.⁸

Viewed from this perspective, the ingestion of drugs can be analogized to pouring one hundred gallons of paint over the side of a house to make sure that it covers the window ledge, which was the only part of the house you wanted to repaint. Drugs can never be specific the way the body is, so you have to throw all the paint you can at the house and hope that some of it sticks where you want it to

go. This is why there are so many “side” effects—in other words, toxic reactions—from allopathic drugs.

A blatantly titled article called “Death By Medicine,” published in December 2003, was written by several luminaries in the functional medicine field: health advocate Gary Null, who hosted his own show on Pacifica Radio for years and then earned his doctorate; Carolyn Dean, with degrees as both a medical and naturopathic doctor; highly respected neurologist Martin Feldman; Debora Rasio, a medical doctor affiliated with a hospital in Rome, Italy; and Dorothy Smith, PhD (whose name was omitted from some of the reprints). This paper was republished in numerous journals (including a 2005 edition of *The Journal of Orthomolecular Medicine*), and can be downloaded for free from many websites. For this groundbreaking report, the authors closely examined government statistics and articles in peer-reviewed medical journals that addressed the efficacy or harm of all facets of American medical care. This included surgical procedures, medical devices, hospital stays, drugs wrongly prescribed, drugs properly prescribed, and more. After compiling and analyzing the data, the team presented its findings on whether people improved from the care they received, or developed additional illnesses due to physician error or drugs. The team also discussed the number of deaths due to medical services, deaths that could have been prevented, and even the financial costs of the errors. When working with much earlier studies, the authors adjusted for increases in population, changes in patient demographics, and other variables, by applying mathematical calculations to already existing data. In some cases, where two sets of data existed, they used the more conservative (lower) figure, giving our medical system a more favorable judgment despite indications that they should not.

What Null et. al. uncovered, however, and were forced to conclude, was truly shocking. Modern medicine in the United States frequently harmed more than it helped. As a result of doctor errors, equipment malfunctions, improper diagnoses, infections acquired in hospitals—and, of course, adverse drug effects, whether they were the “correctly” prescribed drugs or not—people were sicker, and suffered from more severe symptoms, after their first or second doctor visit.

Readers who already don’t think much of the medical establishment might not be surprised by the team’s findings. But for much of the public (and perhaps some doctors as well), *Death By Medicine* legitimized the growing perception that modern medicine has largely failed to accomplish its stated goals. The statistics could not be refuted, because the authors used surveys and clinical records from the medical community’s own physicians, as well as databases from government agencies.

Effectiveness of Drugs

Are drugs effective in treating the condition for which they were prescribed? (Keep in mind that “treating” is a loaded term, because in the allopathic world “treatment” can mean eliminating or lessening symptoms without addressing the cause of the problem.) Annemarie Colbin, a natural foods chef and health writer, reports that in one study, “over 600 commonly prescribed drugs in use for more than 20 years have . . . never proven effective by properly controlled studies.”⁹ But perhaps the most revealing indictment about the success rate of drugs is a now-famous admission from Allen Roses, senior executive at Europe’s largest drug manufacturer, GlaxoSmithKline. On December 8, 2003, he announced, to a roomful of investors at a meeting in London, England: “The vast majority of drugs—more than 90%—only work in 30% or 50% of the people.”¹⁰ Apparently, not one of the investors in the room was surprised. The story first appeared in British newspapers and was rapidly picked up by the BBC, which sent it to the United States—much to the delight of holistically-minded folks who generally don’t have such information available to them in the mainstream press.

Allen Roses . . . has admitted that most prescription medicines do not work on most people. . . . [and that] fewer than half of the patients prescribed some of the most expensive drugs actually derived any benefit from them. . . . It is an open secret within the drugs industry that most of its products are ineffective in most patients but this is the first time that such a senior drugs boss has gone public.¹¹

Roses had an interesting agenda when citing the low success rates of drugs. As vice-president in genetics at Glaxo, he wanted to identify who would and would not respond to a given drug by administering a simple, inexpensive genetic test, thus eliminating the guesswork involved in prescribing pharmaceuticals. “His comments,” the reporter remarked, “can be seen as an attempt to make the industry realize that its future rests on being able to target drugs to a smaller number of patients with specific genes.”¹² Ironically, in his desire to promote yet one more medical procedure, Roses openly and publicly told the truth about drugs.

Damaging Effects of Drugs

Let’s look at the *Physician’s Desk Reference* (or *PDR*®, as it’s more popularly called). The *PDR*® is a massive volume of several thousand pages. Written for and sold to doctors, it’s supposed to list all effects of all drugs. But it doesn’t. A medical doctor remarks:

Because the *PDR*® is mainly a collection of drug-company written package inserts, it omits a great deal of important information. The *PDR*® omits or underreports many serious side effects. It frequently omits information about proven-effective medication dosages that are lower and safer than the doses recommended by drug companies or usually prescribed by doctors. . . .

Nor does the *PDR*® provide any guidance whatsoever in selecting between the many drugs many drugs that might be used for medical conditions. And, although a new *PDR*® is published each year, many drug descriptions are not updated. Some of these descriptions contain information that is decades old.¹³

Even with the significant omissions, a glimpse into some *PDR*® entries—from either the book, or, more recently, the *PDR*® online—is very revealing. The following are just a few examples.

- ◆ Tetracycline. This widely used antibiotic causes lightheadedness, dizziness, headache, blurry vision, nausea, vomiting, diarrhea, inflammation of the colon, inflammation of the pancreas, rashes and lesions of the skin, abnormal sensitivity to light, muscle and joint pain, water retention, asthma, fever, violent cough, chest constriction, variations in pulse, anemia, abnormal decrease in the number of blood platelets, inflammation of the membrane surrounding the heart, and serious shock. Tooth discoloration and abnormal development of tooth enamel occur in children. Some people also experience lesions and itching in the anal and genital regions. Antibiotics do not distinguish between the harmful bacteria we want to eliminate and the beneficial intestinal bacteria that help us digest our food. When the intestinal tract is healthy, flora are plentiful and keep in check the fungal forms that normally live in the body. However, after the antibiotics destroy the beneficial bacteria, there is nothing to prevent *Candida*, *Monilia*, and other fungi from proliferating and causing many unpleasant symptoms, for which doctors often prescribe more drugs. The *PDR*® warns about the “side” effect of inflammatory lesions due to *Monilial* overgrowth, but doesn’t say why this occurs. It’s no accident that the word *antibiotics* is from the Greek, meaning “against life.”
- ◆ Paclitaxel. This highly poisonous drug, marketed under the brand name Taxol®, is used for women with ovarian and breast cancer. Taxol® causes disorders of the nervous system, low blood pressure, high blood

pressure, hives, suppression of bone marrow, chest pain, rapid irregular heartbeat, *grand mal* seizures, skin rash, muscular pain, diarrhea, intestinal obstruction and perforation, and hair loss (the latter in 87% of the patients). In one study, nausea and vomiting occurred in over half of the test subjects; in another, 78% experienced anemia, 37% required red blood transfusions, and several required pacemaker surgery. The *PDR*[®] bluntly states: “There is no known antidote for Taxol[®] overdose.”¹⁴ Perhaps the manufacturer feels that the life-threatening nature of the drug is justifiable, as in allopathic circles cancer has such a low rate of cure. Ironically, drug-induced symptoms occur in those least able to deal with additional stress in their lives: the very ill.

- ◆ Eskalith[®], known generically as lithium carbonate or simply lithium, causes many effects: excessive thirst, weakness, tremors, digestive disorders (nausea, vomiting, loss of appetite and stomach pain), kidney

atrophy, fever, ringing in the ears, gastrointestinal disorders, drying and thinning of the hair, blackouts, seizures, hallucinations, heart palpitations or slowed heartbeat, sexual dysfunction, joint swelling, dental cavities, body pain, thyroid dysfunction, diabetes, blindness, mental confusion, restless muscle movements (eyes, tongue, jaw or neck), itchy skin, and coma. The *PDR*[®] warns that symptoms of lithium toxicity “can occur at doses close to therapeutic levels” *as well as* “levels *within* the therapeutic range.” [emphasis added]¹⁵ But how “therapeutic” is it when the dose can poison someone? (See Sidebar, “Mental Illness or Lithium Mineral Deficiency?”)

- ◆ Ambien[®]. Otherwise known as zolpidem, Ambien[®] is a sedative or hypnotic. The drug’s ability to affect neurotransmitters (brain chemicals) may induce sleeplessness, even though the drug is marketed to treat insomnia. Other “side” effects include loss of balance and motor control, confusion, depression,

Mental Illness or Lithium Mineral Deficiency?

The term “mental illness” is applied capriciously—and incorrectly—by mental health professionals who use an allopathic medical model to label people’s mental, emotional and spiritual distress. History shows that the definition of “mental illness” usually depends on the prejudices and cultural conditioning of the person making the diagnosis.

Labels aside, emotional distress is very real. However, some of the ways in which this distress is treated can have devastating consequences. Mental hospitals commonly prescribe the pharmaceutical lithium *carbonate* (or sometimes lithium *citrate*) to treat bipolar disorder and manic depression. A typical dose of lithium carbonate provides over 1,500 mg of elemental lithium, which accounts for its many serious “side” effects.

Lithium the natural mineral is quite different from lithium the drug. The mineral helps the body utilize nutrients. It raises low white blood cell counts and alleviates liver disorders. It enhances the ability of nerve cell DNA to replicate, while hindering the ability of some viruses (including adenovirus, cytomegalovirus, Epstein-Barr, *Herpes simplex*, and measles) to replicate. The mineral lithium binds to aluminum, allowing it to more easily be excreted. Lithium also benefits the brain in major ways. It mitigates discomfort from migraines and cluster headaches. It protects the brain from the effects of heavy metals, pharmaceuticals, and pathogens. And it helps restore the brain signaling pathways that have been damaged by chemicals. Because the aging brain shrinks, lithium’s ability to promote brain cell regeneration and increase brain cell mass suggests its usefulness not only as an anti-aging nutrient, but also as a treatment for people with Alzheimer’s, senile dementia, and Parkinson’s.

German medical doctor Hans Nieper found that the mineral lithium, when bound to the salt *orotic acid*, becomes lithium *orotate*. Lithium orotate easily crosses the blood-brain barrier because the salt releases the lithium directly into the brain. Hence, much lower amounts of the mineral can be used with optimal effectiveness and no “side” effects. Lithium orotate, when taken in the amounts recommended by some holistic practitioners—140 mg three times a day—provides a total of only 15 mg of elemental lithium. Medical doctor Jonathan V. Wright advocates taking between 10 and 20 milligrams daily of lithium orotate or aspartate to help protect the brain from shrinkage, chemical damage, and cell death due to loss of blood flow (which can be caused by a stroke). Based on research from the Mayo Clinic and other institutions, Wright also suggests natural lithium (along with other nutrients) for treating alcoholism, fibromyalgia, gout, and hyperthyroidism. Some practitioners even prescribe homeopathic lithium.

Overwhelming the body is an invasive practice taught by allopaths. Giving the body what it needs is the standard of care for holistically-oriented professionals. Research shows that a major contributor to mental and emotional imbalances is a deficiency of the essential trace mineral lithium. Healthy water contains between 3 ppb (parts per billion) and 5 ppb of lithium, and unprocessed sea salt crystals contain minute amounts.

Eighty-five percent of people suffering from stress, emotional problems or physical illness are helped by lithium the mineral, not lithium the drug.

Medical error has been defined as an unintended act (either of omission or commission) or one that does not achieve its intended outcome, the failure of a planned action to be completed as intended (an error of execution), the use of a wrong plan to achieve an aim (an error of planning), or a deviation from the process of care that may or may not cause harm to the patient. . . . While many errors are non-consequential, an error can end the life of someone with a long life expectancy or accelerate an imminent death. . . . *If medical error was a disease, it would rank as the third leading cause of death in the US.* [emphasis added]

—Martin A. Makary and Michael Daniel
 “Medical error—
 the third leading cause of death in the US”
British Medical Journal, May 3, 2016

rapid heartbeat, and hallucinations. Some people who take this drug engage in activities that they don’t remember afterward. There have been reports of people walking, making phone calls, eating, having sex, and even driving while under the influence of this drug—activities of which they have no memory later.

Warnings about drugs are not confined to the *PDR*®. Medications come equipped with labels and lengthy inserts. The label for Azidothymidine—otherwise known as AZT and popularly prescribed to people infected with the HIV virus—reads in part: “Toxic by inhalation, in contact with skin and if swallowed. Target organ(s): blood bone marrow. If you feel unwell, seek medical advice. Wear suitable protective clothing.” Elsewhere the label reads: “For laboratory use only. Not for drug, household or other uses.”¹⁶ A skull-and-crossbones, the legal symbol indicating that this substance is a poison, also appears on the label. Unfortunately, many people never see these warnings because the medications are removed from their original boxes and repackaged by the pharmacist before reaching the consumer. If people did see the warnings for AZT, I wonder how many would take it.

Now let’s look at a popular medical textbook, *Harrison’s Principles of Internal Medicine*, for explicit warnings about the effects of drugs. Gastrointestinal distress, particularly vomiting and diarrhea, accounts for about one-third of the “side” effects of drugs. Another analysis reveals adverse drug reactions in a full 20% of ambulatory patients.¹⁷ However, these statistics were not only released over two decades ago, but they were obtained from *reported* cases only. The medical community acknowledges that the rate of reporting adverse drug reactions is much, much lower than the figures reflect.

Colbin reported that according to figures from as far back as 1986, “over 1 million people a year (3% to 5% of admissions) land in hospitals as a result of negative reactions to drugs.”¹⁸ And according to “Incidence of adverse drug reactions in hospitalized patients,” which appeared in the 1998 issue of *The Journal of the American Medical Association*, from 1966 to 1996, 2.2 million people had serious or fatal in-hospital, adverse drug reactions to prescribed medications.¹⁹ These statistics are significant because they were drawn from a stationary, captive group—people in hospitals—where, we have to assume, at least somewhat accurate records were kept. The 2.2 million does not reflect adverse reactions from unhospitalized people, or any reactions that weren’t reported.

Today there are even more noxious drugs and sicker people, due to environmental toxins and other factors. Levels and types of drug-related damage have accordingly increased. A more recent study from the *New England Journal of Medicine* shows that “an alarming one in four patients suffered observable side effects from the more than 3.34 billion prescription drugs filled in 2002.”²⁰ And the associate director at one of the FDA offices stated bluntly: “The 250,000 reports [of adverse drug reactions] received annually probably represent only 5% of the actual reactions that occur.”²¹ This means that there are nearly *five million* negative reactions each year to medicines.

It’s time to reconsider if the “side” effects of drugs are worth the benefits we might derive from them. Many people don’t even think to ask this question.

Administration of the Wrong Drugs

Not only do most drugs not work, but the wrong drugs are often administered. (Admittedly, these are arbitrarily separate categories. If most drugs don’t work, aren’t they the “wrong” drugs?) For example, Null et. al. found that the number of antibiotics prescribed yearly for viral infections was 20 million.²² Even one antibiotic prescription is significant, because it’s basic medical knowledge that antibiotics affect only bacteria and not viruses. Why, then, were antibiotics prescribed for viral infections—by physicians who should have known better?

Preparation of Drugs

I believe that it’s important to treat animals well—especially if we are using them to benefit us, such as provide ingredients for food or medicines. Even though this discussion is about the effects of drugs and not about animal welfare per se, how the animal is treated reflects the intentions and ethics of the manufacturer.

Premarin® is a popular drug used to help alleviate hot flashes and other discomfort in women going through menopause. The major ingredient in Premarin® is estrogen, and the drug's name is derived from how the ingredients are harvested: from the urine of pregnant mares. The methods used to obtain the raw ingredient illustrate how the needs of animals are aggressively ignored during the creation of a drug. *Townsend Letter* reports:

To produce Premarin®, pregnant mares are hooked up to rubber urine-collection bags and tethered in stalls so small they cannot turn around or lay down comfortably. They are forced to stay in this position for six months, while their bodies are producing the most estrogen. They are also deprived of sufficient water, in order to maintain the concentrated estrogen in the urine. Within days of giving birth in the spring, the mares are re-impregnated. Fertile mares may go through this process many times, over years in their lifetime. . . . The mares . . . are slaughtered once they can no longer become pregnant, or if they become too lame to stand in the small stalls.²³

I would think hard about the ethics of taking drugs obtained in such a manner, or prepared by a company that doesn't care about the comfort and well-being of animals. If a company disregards the welfare of animals, why should we believe that it cares about the welfare of its human customers? (Animal cruelty is also intricately connected to how vaccines are made. This is discussed later in the chapter in the section, **The Vaccine Controversy**.)

If You Must Take Drugs

Not all medicines are useless or dangerous. In an emergency, an appropriately prescribed medication can halt severe symptoms and even save someone's life—until, of course, suitable measures can be taken to help the body heal more gently on its own, over a longer time period. But medicines must be used with discernment. Freely administering a drug that has toxic effects, without understanding how the body came to malfunction in the first place, is irresponsible and reckless. Yet this is the standard approach of most Western-trained physicians.

Because of the toxic effects of drugs, it's no accident that suddenly and completely withdrawing a drug—or even simply lowering the dosage—can likewise negatively impact health in serious ways, and even cause death. If you're taking pharmaceuticals and want to reduce your dosage or eliminate a drug entirely, please seek supervision from an experienced health professional.

HOSPITAL PROCEDURES / TESTS AND THEIR EFFECTS

"Hospital procedures" includes all diagnostic tests and surgeries. Many procedures are not tested at all because it's simply *assumed* that they will work. (This is why medicine is sometimes analogized to a religion—because we are expected to accept many of its precepts on faith.)

The prevalence of surgery, especially in the US, may suggest that it's less dangerous than it actually is. Authors of *Our Bodies, Ourselves* suggest exercising "great caution" when deciding whether or not to have an operation.

Many public health researchers are convinced that excess surgery results from excess surgeons, since the US has both the most surgeons and the highest rates of surgery in the world. . . . Because virtually all surgical procedures are reimbursed by insurance and graded according to their complexity, surgeons have strong financial incentives to perform a lot of surgery, especially . . . difficult operations. Hospitals similarly benefit from concentrations of elective (non-emergency) complex surgeries. And, precisely because surgery has become so common, many people have internalized the surgical mentality ("When in doubt, cut it out") and are easily convinced that an operation is necessary.²⁴

Women not only take more medicines than men, they also undergo more surgeries. An astonishing one-third of US women have a hysterectomy (the removal of the uterus) before menopause! The routine removal of the uterus began with 19th century French doctor, Martin Charcot, who claimed that ten women per day suffer from hysteria. His solution was to remove the offending organ that he believed was the cause. He never considered that the source of their depression was cultural—the myth that women were inferior, and the resulting practice of keeping them confined to the house all day! The word "hysteria" is derived from the Latin word *hystera*, which means "uterus." Disrespect of women (sexism) still dominates the medical field in the 21st century.

Nonessential surgical procedures are called "elective surgery," or sometimes "controversial surgery." They are considered medically unwarranted because their perceived benefits are generally outweighed by the risks. Risks include anesthesia, stress from the body's being cut, infection, and the body's reduced ability to function once organs or other parts are removed. "Death By Medicine" reported that 30% of these elective surgeries are very likely unnecessary.²⁵ The figures today are higher.

Let's take a look at cesareans (C-sections). They're performed if it's merely *assumed* that the woman will have a hard time giving birth. But cutting open the abdominal cavity to extract a baby is major surgery. It's extremely painful, leaves massive scarring, and cuts through meridians—important energy channels in the body. Often, a skilled midwife or nurse can bring the baby into the correct position by administering a massage, either externally or through the vaginal canal itself.

A tonsillectomy—the removal of the tonsils (pockets of lymph tissue on either side of the throat)—is common in many countries, although US figures are the highest, at 530,000 people a year (mostly children). The nearby related adenoids may be removed as well. This surgery is so routine that most people don't question it. Tonsils are excised after they become swollen “too many” times, with an accompanying sore throat. But tonsils (and adenoids) are *designed* to get swollen! As part of the lymphatic network, during an infection these organs fill with immune cells to perform an important function: scavenge pathogens. New studies show that people who have had their tonsils removed are at risk later for significantly more infections, autoimmune conditions, and other chronic medical issues than people who keep their tonsils. Problems later in life include respiratory infections (asthma, bronchitis, chronic obstructive pulmonary disease and pneumonia) and even apparently unrelated conditions such as skin and eye infections and parasites. As it turns out, vital immune cells develop in the tonsils and adenoids. Removing these needed organs robs the body of a critical defense against all kinds of diseases.

Consider silicon breast implant surgery, classified as elective because it's not medically necessary. Foreign objects that don't belong in the body are inserted. If the implants leak, the silicon can cause almost any symptom from extreme joint pain to chronic fatigue.

Many diagnostic routines are also highly invasive and painful. Moreover, they can have long-term health consequences—a high price to pay, considering their limited value. Their innocuous-sounding label of “tests” diverts us from their danger. Consider a biopsy, during which living tissue is extracted from the human host (usually to detect cancer). This can create more problems than if the tumor had been left alone. Normally, the body encases cancerous cells with material that we call a “tumor,” to prevent the cancer from spreading. If the tumor is pricked or removed by surgery, cancerous cells can leak into the bloodstream, migrate, and proliferate elsewhere. If the immune cells aren't strong enough to

neutralize these stray cells, *metastasis* occurs. Biochemist Vincent Gammill, research director of the nonprofit Center for the Study of Natural Oncology in California and the inventor of many cancer vaccines and nutraceuticals, once remarked: “I rarely see distant metastasis until after a biopsy—and then it rapidly goes everywhere, including the bones.”²⁶ It's illegal for doctors to advise against a biopsy. If they do, they can lose their license.

One very common test, the Pap smear, consists of scraping cells from a woman's cervix (the lower end of the uterus) and checking those cells for abnormalities. Irregular cells are supposed to indicate cancer. Although the procedure isn't dangerous and doesn't hurt too much, it can often lead to false negatives or false positives. Incredibly, one study showed that up to “10 million women who have had hysterectomies and who no longer have a cervix are still getting Pap tests. . . . When a woman does not have a cervix, a doctor scrapes cells from her vagina instead, sending them off to be examined.” One doctor admitted, “It's a relatively cheap and easy procedure. It's sort of become a habit.” A more ethical doctor said she was “quite surprised [to hear about this]. . . . These women are being screened for cancer in an organ they don't have.”²⁷

Another test, the euphemistically-termed spinal “tap,” is called “lumbar puncture” by physicians. The colloquial name doesn't convey how risky and painful the procedure is, but the medical term does. During the puncture, cerebrospinal

fluid is extracted from the spine with a long needle. Examination of the fluid is then supposed to confirm (or deny) the existence of infections such as meningitis, brain bleeding or hemorrhage (blood would be present in the fluid), and neurological disorders such as seizures. People whose spines are “tapped” develop headaches, and pain, bleeding or infection at the injection site.

High on the list of dangerous “tests” are X-rays, which are so common in developed countries that most people aren't cautious. However, as analyzed by Null et al.:

When X-rays were discovered, no one knew the long-term effects. . . . It was common practice to use X-rays in pregnant women to measure the size of the pelvis, and make a diagnosis of twins. Finally, a study of 700,000 children born between 1947 and 1964 was conducted in 37 major hospitals. The children of mothers who had received pelvic X-rays during pregnancy were compared with the children of mothers who had not been X-rayed. Cancer mortality was 40% higher among the children with X-rayed mothers.²⁸

Removal of Healthy Breasts Is Found to Cut Cancer Risk

—front page headline
The New York Times
January 14, 1999

X-rays are dangerous because they consist of *ionizing radiation*—very short, high-frequency electromagnetic wavelengths that are so powerful, they knock electrons in atoms off their orbits. This causes permanent damage on the cellular level, leading to genetic mutations and cancer. “Even though by now it is popular knowledge that X-rays may cause cancer,” Colbin wrote, “over 300 million of them are ordered yearly *without medical need*. Radiation from diagnostic X-rays is implicated in cancer, blood disorders, tumors of the central nervous system, diabetes, stroke, and cataracts.”²⁹ X-rays, along with other tests such as CT scans, mammography and fluoroscopy, are cited by Null et. al. as “a contributing factor to 75% of new cancers.”³⁰

The mammogram—heavily marketed to women as essential to detect breast cancer early—is an X-ray. Mammograms are supposed to detect “spots” on the breast that don’t belong and are thus assumed to be cancerous. Mammograms are routinely promoted so that treatment for cancer can begin immediately. Not receiving a mammogram during a routine medical exam is regarded as abnormal, foolish, and dangerous. In fact, the American Cancer Society recommends that women over 40 years old get “screened” (another euphemistic word) annually. But in November 2009, the US Preventive Services Task Force (a federal advisory board) stated that annual mammograms for women under 50 years old weren’t necessary, and were needed only every two years after that.

Mammograms are unnecessary, dangerous, inaccurate, and costly. Note the title of a 2015 study, “National expenditure for false-positive mammograms and breast cancer overdiagnoses estimated at \$4 billion a year.”³¹ A mammogram cannot detect cancer in almost 73% of women whose breast tissue is exceptionally dense. Most women under 40 have dense breast tissue. A 2011 edition of *The Lancet Oncology* showed that women who received the most number of mammograms had a higher incidence of invasive breast cancer during the next six years than a control group who received fewer mammograms.³² A thermogram, which is a far infrared test that uses the body’s own heat to create images, is a safe, effective way to detect breast cancer; but it’s not publicized by doctors.

The statistics compiled by Null and colleagues have been confirmed by newer findings. In August 2013, the *Mayo Clinic Proceedings* described medical testing, procedures and treatments that didn’t produce the expected results. More than half were found to have no benefit, and many caused harm. “In a prior investigation of one year of publications in a high-impact [medical] journal, we found that . . . 46% constituted medical reversals [setbacks].”³³

Dangerous tests will continue as long as people consent to receiving them and are willing to pay for them.

IATROGENIC (DOCTOR-CAUSED) DISEASE AND PREVENTABLE DEATHS

Deaths resulting from overmedication, prescription errors, invasive testing, surgeries, and hospitalizations (someone catches an infection while being hospitalized, and dies), are so commonplace that there is a name for these occurrences: *iatrogenic illness* or *iatrogenic disease*. These deaths are even more tragic considering that 8.9 million people were hospitalized unnecessarily in the year 2001 alone.³⁴

Drug Iatrogenesis

Harrison’s Principles of Internal Medicine states that a “side” effect from drug-induced diseases—death—in hospitalized patients varies from 2% to 12%.³⁵ Each hospitalized person is given about 10 different drugs.

A 1998 study indicates that over 100,000 Americans a year die from harmful reactions to medications. The deaths “are not due to mistakes by doctors in prescribing drugs or by patients in using them. Rather, drug reactions occur because virtually all medications can have bad side effects in some people, *even when taken in proper doses*. [emphasis added] ‘We want to increase awareness that drugs have a toxic component,’ said Dr. Bruce Pomeranz, an author of the study and a professor of neuroscience at the University of Toronto. ‘It’s not rare.’”³⁶ There are other mistakes too. Null et al. cite a 2002 study showing that “20% of hospital medications for patients had dosage mistakes. Nearly 40% of these errors were considered potentially harmful to the patient. In a typical 300-patient hospital the number of errors per day were 40.”³⁷

Simply put, the fourth leading cause of death in America, after cancer, heart disease and stroke, is reactions to “safe” over-the-counter drugs and “properly” prescribed prescription medicine. Is the prescribing of most medicine, then, truly proper?

Will Doctors Take Their Own Medicine?

Professor John Saunders, who chairs the ethical issues committee of the Royal College of Physicians, certainly believes that there are circumstances in which doctors should be volunteers in their own trials. Having been a subject in his own research in the past, he says: “I think it is perfectly legitimate for people to say: ‘If you aren’t prepared to undergo this experiment on yourself, how dare you expect others to do so.’”

—“Doctors Who Had a Taste of Their Own Medicine,”
June 10, 2006

timesonline.co.uk/article/0,8123-2217159,00.html

FDA Scientists Feel Pressured To Lie

The Union of Concerned Scientists (UCS) . . . released survey results that demonstrate pervasive and dangerous political influence of science at the Food and Drug Administration (FDA). Of the 997 FDA scientists who responded to the survey, nearly one-fifth (18.4%) said that they “have been asked, for non-scientific reasons, to inappropriately exclude or alter technical information or their conclusions in a FDA scientific document.” . . .

The UCS survey, which was co-sponsored by Public Employees for Environmental Responsibility, was sent to 5,918 FDA scientists. Forty percent of respondents fear retaliation for voicing safety concerns in public. This fear, scientists say, combines with other pressures to compromise the agency’s ability to protect public health and safety. More than a third of the respondents did not feel they could express safety concerns even inside the agency. . . . [Also:]

- ◆ 61% of the respondents knew of cases where “Department of Health and Human Services or FDA political appointees have inappropriately injected themselves into FDA determinations or actions.”
- ◆ Only 47% think the “FDA routinely provides complete and accurate information to the public.”
- ◆ 81% agreed that the “public would be better served if the independence and authority of FDA post-market safety systems were strengthened.”
- ◆ 70% disagree with the statement that FDA has sufficient resources to perform effectively its mission of “protecting public health . . . and helping to get accurate science-based information they need to use medicines and foods to improve their health.”

To address the concerns raised by FDA scientists, UCS recommends:

- ◆ **Accountability.** FDA leadership must face consequences if they side with commercial or political interests and not with the American people.
- ◆ **Transparency.** Scientific research and reviews should be open so any undue manipulation is immediately apparent.
- ◆ **Protection.** Safeguards must be put in place for all government scientists who speak out.

—Union of Concerned Scientists

“FDA Scientists Pressured to Exclude, Alter Findings; Scientists Fear Retaliation for Voicing Safety Concerns”

July 20, 2006

Hospital Infections

Back in 1986, Colbin reported “the most rapidly spreading epidemic of the 20th century,” citing “over 2 million infections a year” in American hospitals, that resulted in “60 to 80 thousand deaths.”³⁸ Data analyzed in 2002 by *The Chicago Tribune* from patient databases, court cases, 5810 hospitals, and 75 federal and state agencies, found “103,000 cases of death due to hospital infections, 75% of which were preventable.” [original emphasis]³⁹ By 2011, according to the Centers for Disease Control, the number of hospital-acquired infections (in hospitals solely devoted to acute care) had escalated to 722,000. Almost ten percent of those infected, died.⁴⁰

Deaths from Surgeries and Tests

Colbin wrote that an “estimated 2.5 million operations a year are performed without real medical need, resulting in some 12 thousand needless deaths.”⁴¹ Statistics compiled by Null and colleagues two decades later gave comparative numbers for unnecessary surgeries. In 1974, 2.4 million unnecessary surgeries were performed annually, resulting in 11,900 deaths. In 2001, 7.5 million unnecessary surgical procedures were performed, resulting in 37,136 deaths.⁴²

Combined Statistics

In 2003, Null et al. wrote that the total number of iatrogenic deaths yearly, in hospitals, is 783,936. The deaths were surgery-related, and were due to adverse drug reactions, (unspecified) medical error, bedsores, infection, malnutrition, and useless procedures. “We could have an even higher death rate by using [another statistician’s differently calculated] . . . medical and drug error rate of 3 million. . . . *The American medical system is the leading cause of death and injury in the United States.*” [emphasis added]⁴³

Is “Death By Medicine” still relevant? Consider this: a 2010 *New England Journal of Medicine* article found that 18% of people admitted to hospitals were injured by medical care (some repeatedly); over 63% of the injuries could have been prevented; and in about 2.5% of the cases, the problems caused, or contributed to, death. “We found that harms remain common, with little evidence of widespread improvement.”⁴⁴ An article in the September 2013 issue of *Journal of Patient Safety* pointed to another grim statistic: each year, between 210,000 and 440,000 people who are admitted to the hospital suffer some type of preventable harm that contributes to their death.⁴⁵ An even more recent statistic is in the Sidebar on page 26.

Do you have confidence in a hospital stay if you get sick?

DEATHS AND INJURIES FROM MEDICAL DEVICES

Medical devices include items placed inside the body (such as breast implants, replacement limbs and pins, bone grafts, pacemakers, and mesh used for patching internal holes), and products used externally (such as medical scanners, ventilators, infant resuscitators, insulin pumps, and defibrillators). Ordinarily, we might not consider that medical devices belong in the same category as unsafe prescriptions. But medical devices can be as injurious as pharmaceuticals. In the last several years especially, a number of well-known manufacturers have been sued for issuing devices and implants that were either defective, or made with substandard parts—which resulted in serious injuries or death. Pathogens on improperly sterilized instruments, such as duodenoscopes (which allow viewing of the stomach), also contribute to deaths.

According to the FDA's own website, each year the agency receives "several hundred thousand medical device reports of suspected device-associated deaths, serious injuries and malfunctions."⁴⁶ "Several thousand" is a lot of reports. Typically the FDA recalls defective products, but hospitals and individual doctors are allowed to decide if they want to stop using the products. Sometimes they don't. Let's review just a few devices in the past few years that have malfunctioned:

- ◆ A 2007 NBC News report on heart stents (used to widen blood vessels ridden with scars or plaque) called these devices "time bombs,"⁴⁷ because they irritate the body, causing scar tissue—thus exacerbating the very problem for which they were installed. People ended up taking blood thinning medications anyway.
- ◆ In 2012, the death certificate of a Boston, Massachusetts man initially indicated that he died from throat cancer. But it was later determined that too much morphine had dripped into his system all at once, due to a breakable plastic clip in his medicine dispenser that was supposed to regulate the flow of medication. A manufacturer's representative assured the hospital that although a new clip was needed, it was still safe to use the device. The item had been assigned a "Class 1" recall by the FDA—a useless regulation, because even with this most strongly worded recall it's not necessary to discontinue using a product that has been proven to cause injury or death.
- ◆ In 2013, a company called GE Healthcare was forced to tell customers to stop using more than 20 models of its nuclear imaging devices after some bolts became dislodged from one of its machines and killed someone.

FACTS AND FALLACIES ABOUT CLINICAL TRIALS

Standard scientific protocol for the early stages of drug testing involves inducing illness in two matched groups of animals. The researchers deliberately don't intervene in the first group (*control* group) to make sure that the disease really would have disabled or killed them. However, the researchers administer the experimental drug or treatment to the second group (*test* group) to see how many of those animals will live.

The ways in which drugs are tested have so many flaws that test results are not only misleading, but often invalid. In the next several pages, I will discuss a few practices that can lead to some glaringly inaccurate conclusions about the effectiveness and safety of drugs.

A Human is Not a Lab Rat

In the United States, scientists heavily rely on animals to test a new drug. Mice are very popular because they reproduce and mature into adults quickly. This allows researchers to observe the responses of their offspring, and compare the health of subsequent generations, in a brief period of time. Rodents are utilized so much that the phrase *lab rat* was born. Other animals, such as dogs, cats, monkeys and other primates, and sometimes pigs (whose heart and circulatory system are remarkably similar to that of humans), are also used in experiments.

Once the animal's tolerance for a drug is reached and its responses recorded, the researchers believe that they have learned something about the alleged safe upper limit for human beings. Assuming that the drug is now considered safe enough to be used on human beings, the animals might be killed. Then researchers can legally experiment on humans. These experiments are called *clinical trials*.

Experimenting on animals for the benefit of peoples' health raises difficult ethical issues. Many discoveries have been made because of an animal's sacrifice. Yet at what point does the animal's suffering outweigh the dubious possibility of a beneficial discovery? I bring this up because the moral issue of causing pain to a sentient creature overlaps with whether or not it is scientifically sound to experiment on animals in the first place. How accurate is it to take information learned about animals and apply it to humans?

The organ structure, gland function, biochemistry, and even psychological responses in animals (and of course size) can be very different from those in humans. Therefore, as some researchers already know, the value of data gleaned from animals' responses to drugs is questionable.

When Clinical Trials Damage Even Healthy Volunteers

The trial of a new drug in a London hospital that nearly killed six men three months ago . . . left them in intensive care for weeks. . . . All six trial subjects were moaning or screaming and begging for pain pills. . . . All required weeks of intensive care, suffering failure of their kidneys, lungs and circulatory systems.

The six men, who were all young and healthy just months ago, now suffer from serious medical problems, . . . [including] severely damaged immune systems that will probably leave them vulnerable to disease for life. . . . They have been unable to get any of the drug companies involved in the trial to cover their medical expenses, or provide compensation—other than a one-time payment of under \$20,000 apiece.

The six research subjects were given infusions of the new and unknown drugs only 10 minutes apart. Virtually all reviews of the trial have concluded that such new drugs should be given to one patient at a time, with long intervals in between, so that monitors can screen for serious side effects. . . . TeGenero, the small German bio-technology firm that developed the drug . . . filed for bankruptcy-court protection on July 4.

—Elisabeth Rosenthal

"Inquiries in Britain Uncover Loopholes in Drug Trials"
The New York Times, August 3, 2006

A Human is Not a Test Tube

Sometimes the researchers report that a drug accomplishes the desired effects *in vitro*, which is in a test tube or Petri dish. They cultivate microbial colonies in a nutrient broth to feed them—much as soil nurtures a plant—and then let the microbes interact with the drug while they watch the activity under a microscope. The drug might perform very well to kill the pathogens being studied.

The problem is, *in vitro* is very different from *in vivo*, which is inside a living body (human or animal). The body of a complex and changeable human, or even an animal, provides vastly different nutrients for a dangerous microbe than does a carefully cultivated, selected nutrient medium inside of a container. Nevertheless, even if the two produce different results—that is, the drug in a Petri dish works well but it doesn't work as desired in a living body—the medication may still be allowed on the market.

How is the Drug Administered?

During clinical trials, a drug intended for oral consumption might be given orally. Similarly, a drug intended for injection might be given via a needle intravenously or intramuscularly. But sometimes during testing, an oral drug is administered by injection. This is often done when researchers experiment on animals. Injection always puts higher concentrations of a substance into the body than oral dosing. Perhaps, then, the intention is to pump as much of the drug as possible into the animal—far more than could be forcibly fed even in a lifetime—to test the subject's upper limits.

The problem is, a substance that bypasses the digestive process and goes directly into the bloodstream can have completely different effects. Nevertheless, some researchers believe that injecting a drug that's supposed to be taken orally provides useful and accurate data for a clinical trial.

How Much of the Drug is Administered?

During drug testing, the amounts typically administered are greater than the amounts intended to be prescribed in a real life situation. This is because researchers are trying to discover the subjects' highest tolerance of a drug before adverse effects occur.

To What is the Drug Compared?

During clinical trials, the drug being tested is often compared to something that the company knows is inferior or unsuitable. The medication might be compared to another drug that doesn't work well, or to a placebo (more on that shortly). This is done to amplify the illusion that the drug is effective.

How Many Subjects are Tested?

There are three, and sometimes four, phases of a clinical drug trial. In any of the phases the drug can be administered (in two different strengths) against another already accepted therapy or against a placebo. (A placebo is a supposedly inert substance assumed not to have an effect. This will be discussed in more detail shortly.) The FDA website summarizes these phases:

- ◆ *Phase I Trials.* Researchers test a new drug or treatment in a small group of people (20 to 80) for the first time to evaluate its safety, determine a safe dosage range, and identify side [toxic] effects.

- ◆ *Phase II Trials.* The study drug or treatment is given to a larger group of people (100 to 300) to see if it is effective and to further evaluate its safety.
- ◆ *Phase III Trials.* The study drug or treatment is given to large groups of people (1,000 to 3,000) to confirm its effectiveness, monitor side [toxic] effects, compare it to commonly used treatments, and collect information that will allow the drug or treatment to be used safely.
- ◆ *Phase IV Trials.* Post marketing studies gather additional information including the drug's risks, benefits, and optimal use.⁴⁸

For Phase I, 20 research subjects is ridiculously insignificant. And for Phase III, 3,000 subjects—the maximum number reported for any of the steps—is inadequate, considering the millions of people who might eventually take the drug.

Sometimes the number tested does not even reach three thousand. For instance, the *PDR*[®] reports that one of the tests for the drug Taxol[®] (used for women with ovarian and breast cancer) consisted of only 83 subjects. According to the National Cancer Institute, one in eight women will get breast cancer during her lifetime.⁴⁹ Let's say that 1 in 50 people will be taking Taxol[®]. You do the math. What percentage out of even 1 in 50 people in the entire US population is 83 subjects?

If excessive smoking actually plays a role in the production of lung cancer, it seems to be a minor one.

—Dr. W.C. Heuper, of the National Cancer Institute, quoted in *The New York Times* April 14, 1954

For How Long are Subjects Tested?

Generally, the study ends when results are promising. But the time allotted for clinical trials is nothing compared to the extended periods during which people will be using the drug. Null et. al. wrote, “Serious adverse drug reactions commonly emerge after Food and Drug Administration approval. The safety of new agents cannot be known with certainty until a drug has been on the market for many years.”⁵⁰

“Post-Approval” is a fifth step of drug testing, but it's not part of the actual approval process. Post-Approval is a little like closing the barn door after the horse has escaped. Null et al. reported that “The General Accounting Office (an agency of the US Government) found that of the 198 drugs approved by the FDA between 1976 and 1985, . . . 102 (or 51.5%) had serious post-approval risks.” These “risks” included “heart failure, myocardial infarction, anaphylaxis, respiratory depression and arrest, seizures, kidney and liver failure, severe blood disorders, birth defects and fetal toxicity, and blindness.”⁵¹

Do the Study Subjects Represent the General Population?

Common sense indicates that the people tested for a drug's effectiveness should have the illness that the drug is designed to treat. But often, clinical drug trials are conducted on healthy people. This skews the results. Healthy individuals tend to be more resistant to negative effects of drugs; whereas sick individuals—the ones who will actually be taking the medication—have lowered resistance due to their compromised immune response.

When sick people do participate in drug trials, they are carefully evaluated first. The ones who are selected to participate have been assessed by the researchers to be most likely to benefit from the drug. This is not a random acceptance of subjects, but a deliberate selection to give the drug trials the best possible outcome.

What If More Than One Drug Is in the Mix?

As already mentioned, drugs are often tested on healthy subjects. Such individuals will not be taking other medications. This is actually one of the requirements for a valid test, because researchers want to obtain a “pure” reading of effects without the interference of other drugs in the body.

The problem is, many people who are on medications either take more than one at the same time, or more than one within minutes or just a few hours of each other. There are no provisions during clinical trials to test the interaction of the officially tested drug with other drugs that are not being tested. Therefore, in real life, it may be difficult to know which chemical is producing the bulk of the undesirable symptoms.

Here is an illustration of the above problem. Take paclitaxel, a drug often used for cancer. Physicians are advised to treat patients with corticosteroids and other toxic chemicals before administering the paclitaxel itself, considered to be the “main” drug. (Note: Because the body has to be “prepped” in order to accept the medication, this indicates that the presence of the drug in the system is highly unnatural. Nonetheless, the *PDR*[®] states: “Paclitaxel is a natural product with antitumor activity.”⁵²) The negative reactions that the person experiences later could be exponentially increased by the interactions of the paclitaxel and the drugs that were used to “prep” him or her. It's impossible to know which reactions were caused by the paclitaxel and which were due to the “prepping” agent.

Is a Placebo Really Inert?

A clinical trial is usually conducted using two groups. One group is given the drug. The second group is given something else that appears to be a drug, but is supposedly inert and therefore doesn't have any "real" (recognizable) effect. This phony drug is the *placebo*. Researchers regard the placebo as a neutral control, against which they can compare the activity of the actual drug. To make the test objective, the participants don't know what they are receiving. Even the researchers who administer the substances don't know what they are giving, to prevent any preconceptions they might have from psychologically influencing the subjects, even on a subtle or unconscious level. It's well known that if placebo subjects believe that they are being given the actual (helpful) medicine, their belief will assist with healing. More on this in a moment.

The dictionary defines *placebo* as "a medicine given merely to humor the patient; especially, a preparation containing no medicine but given for its psychological effect."⁵³ *Placebo effect* is defined by the National Center for Complementary and Alternative Medicine at the National Institutes of Health (NIH) as "desirable physiological or psychological effects attributable to the use of inert medications."⁵⁴ A placebo is understood by both health professionals and the lay public to be totally inert, inactive, and thus harmless. But the so-called placebo method contains several serious flaws.

Placebos are often sugar pills. Sugar is hardly inert, especially not if the subject has diabetes, hypoglycemia, or weight or metabolic issues. Plus—and here's the astonishing disclosure—regardless of what the word means or what we think it means, *by law a placebo is not required to be inert*. Drug companies are permitted to design placebos with whatever ingredients they choose. And the drug companies are not required to disclose what those ingredients are. Sometimes, writes a reporter, the pharmaceutical companies put selected ingredients into

placebos that match those in the drug and will affect the outcome of the trial . . . [because they] are often fully aware of many of the side effects of the products they're testing. So, for instance, if a drug is known to cause dizziness and hypertension, the drug company running the test wants the placebo to have the same side effects. And they have an explanation for this. They say the placebo should mimic the drug being tested so that the control group of the experiment will have side effects similar to the placebo group. Without that, they claim, the results of a blind study would be compromised.⁵⁵

Manufacturing a so-called placebo so that it will induce "side" effects makes no sense from a scientific standpoint. But it makes a lot of sense if a company is trying to make a drug appear better than it actually is. The drug's harmful "side" effects can be masked if the control group is given something that induces similar harmful symptoms. This is why, when manufacturers of HPV vaccines were "testing" them, their control groups received placebos containing (hardly inert) aluminum.

Medical doctor and research professor Beatrice Golomb is a highly vocal proponent for changes in how drug companies conduct their tests. She wants them to disclose all placebo ingredients, as well as develop a standardized set of placebos whose ingredients and "side" effects are known. This is an excellent goal. However, trying to identify, and then rectify, all the problems intrinsic to drug testing involves a huge amount of effort and time. It might be more useful to devote energy to eliminating the need for drugs in the first place.

The Underestimated Effects of Water

One aspect of a clinical trial that influences any result is the simple ingestion of water. Even if a subject is swallowing a genuinely inert pill or tablet placebo, the water being drunk with the counterfeit medication is likely to have a beneficial effect on the subject's system. This is because so many people are chronically dehydrated. According to most sources, a deficit of even 2% of the water in the body severely impedes the ability to perform, both physically and mentally.⁵⁶ The late physician Fereydoon Batmanghelidj gave the figure as low as 1%. He observed that replenishing that missing 1% not only often mitigated disease, but even eliminated it entirely.⁵⁷ Similarly, the presumably neutral *saline solution* placebo sometimes injected into people could be just what they need. (See Chapter 3, **Water**, for more information.)

The Paradox of Double-Blind Studies

The relationship between belief and biological functioning is relevant to double-blind studies as well as placebos. One Chinese medicine researcher writes:

The Regeneration principle [of Chinese medicine] asserts that we must take an active role in our own healing; the double-blind principle asserts that we must *not*. . . . [It] keeps us blind precisely so we *can't* take a role. There's evidence that the double-blind design puts patients into a state of uncontrollability, or helplessness, which provokes

those high levels of corticoid hormones [that arise in response to stress]. . . . In that sense, the double-blind research design is unhealthful.⁵⁸

Put another way, double-blind studies actively suppress the immune function of the subjects. Thus, researchers who believe that they are gathering objective data are unknowingly contaminating the test results by preventing subjects from participating in their own healing. It should be obvious that actively interfering with someone's healing process is both unscientific and unethical.

We are commonly taught that the scientific method is linear: Cause 1 + Cause 2 = Effect. In reality, the scientific method is like a circle, where many elements interact with other elements. You can pick one point on the circle, and as you travel around the circumference you are led to every other point. Whole, living systems, such as human beings, are not linear. Very rarely, if ever, does a clear-cut case of "cause and effect" occur, because each body part and system is related to other body parts and systems. This interdependence of all parts in a living system is not linear.

Unfortunately, this truth does not dissuade many researchers from engaging in linear thinking to the exclusion of all else. Ironically, they do not realize that linear thinking prevents them from being scientific!

Clinical Drug Trials Are Not Registered with the Government

After the year 2000, a US federal law was enacted that required drug companies to post all research pertaining to the safety and efficacy of drugs on a government database. However, compliance has been only partial. For example, in July 2004, ABC News reported the FDA's discovery that "less than half of the total number of cancer drug therapy studies in 2002 were listed." The percentage of disclosure for *all* clinical trials was even lower. "Of more than 5,500 currently ongoing drug studies, only 13% were listed on the governmental database. The database wasn't intended to be comprehensive." Why not? What about the law? The report's conclusion: "It's unclear how to make firms comply because federal law prescribes no penalties for a company's failure to post results."⁵⁹

No Clinical Trials, but a Drug is Marketed Anyway

The FDA is known for approving drugs that haven't been properly tested over a long enough period, or with enough test subjects. An illuminating article, "New Drugs Hit the Market, but Promised Trials Go Undone," appeared in the March 4, 2006 edition of *The New York Times*.

When it approves new drugs for sale, the Food and Drug Administration often requires their manufacturers to study whether they are working as intended and whether they have unwanted side effects. But the agency reported . . . that two-thirds of the studies had not even been started.

. . . [The] director of the Office of New Drugs at the agency . . . emphasized that only 5% of the promised drug trials were officially considered "delayed." In many cases, trials have been pending for more than a decade but are not considered delayed because the agency never insisted on a specific timeline for the tests. . . . The agency often compromises by approving a drug quickly and then insisting that its maker prove after approval that the drug actually works. This strategy . . . has been only marginally successful.

As of September 30, of the 1,231 promised drug trials, 797, or 65%, had not begun or were "pending," according to the FDA. Another 231 were considered "ongoing" and 28 were "delayed." In the 2005 fiscal year, drug makers completed and submitted the results of 172 trials, the agency reported.⁶⁰

Note that the FDA has clout if it chooses to use it. The author stated that if pharmaceutical companies tend to be a little "delayed" in submitting test results to the FDA after their products are already on the market, they do "complete trials rapidly when the FDA demands the results as a condition for approval."⁶¹

Even more problems exist with drug trials. Many people with cancer are afraid to receive a placebo they don't believe will be as effective as the actual drug, so not enough cancer subjects enroll in clinical trials. Due to this shortage of test subjects, few cancer drugs are even assessed. (Ironically, new cancer drugs that are thought to produce similar effects to already existing drugs still tend to be tested.) Also, drug trials are expensive. Pharmaceutical manufacturers may be reluctant to invest more money in

- ◆ Almost 70% of Americans take at least one prescription drug.
- ◆ More than 50% of Americans take two prescription drugs.
- ◆ A full 20% take five or more prescriptions.
- ◆ Antibiotics, antidepressants and painkilling opioids are the most commonly prescribed drugs.

—Mayo Clinic News Network, June 19, 2013
from a study funded by the National Institute on Aging
and the Mayo Clinic Center for the
Science of Health Care Delivery

a drug, and therefore do not finish the test—even though, presumably, we need the test to be completed in order to know if the drug did or did not work. Finally, even though common sense suggests that the FDA should withdraw a drug from the market because there’s little or no proof of effectiveness—not to mention the shortage of test subjects, which invalidates the entire trial—regulators allow this unproven drug to be sold and used anyway, because they don’t want to “hurt the patients”!

Off-Label Use of Drugs

Sometimes a doctor prescribes a drug for *off-label* use. This means that even though the medication was created and tested solely for a specific conditions (or a few conditions), the person is choosing to use it for an entirely different reason. Pharmaceutical companies routinely encourage off-label use. Doctors are legally permitted to prescribe any drug, so off-label uses happen more frequently than one might think. Critics of off-label use comment on the “frequently inappropriate and non-tested uses of these medications in spite of the fact that these drugs are only approved [and presumably tested] for specific conditions.”⁶² These objections are unfounded for several reasons. One, most clinical trials are deeply flawed anyway. Two, one can experience “side” effects regardless of the stated reasons for taking the drug. Three, sometimes a drug works better for an off-label use than for the condition for which it was created. Nevertheless, given the harm that so many drugs cause, there is a chance that an off-label use could be dangerous.

The Hard Truth: A Summary

Most drugs don’t work as advertised. The majority of drugs are harmful. Clinical trials, due to many flaws in their methodology, do not accurately depict the dangers or effectiveness of a drug. If studies are published, the manufacturer chooses which information is released. Some details, or even an entire study, may be deleted because the outcome contradicts the desired result. The manufacturer may even fabricate results to make the drug appear less dangerous and more effective than it actually is. Researchers may choose to analyze the same data differently until the desired outcome can be reported.

A US federal law requires drug companies to reveal the results of all tests. However, there is no way for the FDA to determine or enforce compliance. And there is no punishment if the manufacturer fails to comply. Generally, a drug requires ten years of use before its safety can be determined. But because drugs are released much sooner, enormous damage may have already been inflicted.

Finally, as the FDA itself states, it’s not the agency’s job to conduct independent tests that might challenge the manufacturer’s claims. Independent testing facilities don’t exist because no money is made from challenging drug manufacturers. (Also, as I’ll discuss shortly, many FDA heads used to be employed by the very pharmaceutical companies they currently monitor; so there’s no incentive to conduct such tests anyway.)

For all these reasons, and more, the authors of “Death by Medicine” wrote: “Unfortunately, partaking in allopathic medicine itself is one of the highest causes of death as well as the most expensive way to die.”⁶³

HOW DRUGS ARE APPROVED

Once clinical trials are conducted, how exactly does the approval process work? This is worth knowing because in the mind of the public, approval equals safety—even though this assumption is usually not supported by facts. (Although our discussion is about the approval process in the United States, most other countries imitate the US.) In *World Without Cancer*, G. Edward Griffin explained:

There is a great deal of evidence supporting the nutritional-deficiency concept of cancer—more than enough to convince most people that the thesis is proven. But the word *proven*, when used by the FDA, has an entirely different meaning. . . . When the FDA says a therapy is proven, it means only that its promoters have complied with the testing protocols set by the agency to demonstrate safety and effectiveness. . . . [However] the successful completion of those tests does not mean, as the terminology implies, that the therapy is safe and effective. It merely means that tests have been conducted, the results have been evaluated, and the FDA has given its approval for marketing, often *in spite of* the dismal results.⁶⁴

As we have seen, the FDA’s system of approval for pharmaceuticals is loaded with flaws and loopholes. One major loophole is that FDA approval of drugs (or additives, or any substance under its jurisdiction) is based on reports—which may or may not be legitimate, unbiased research—that are *submitted by the manufacturer*. Many people believe that these clinical trials are serious scientific research, even though the studies selectively emphasize information or omit it altogether, making them misleading at best and outright false at worst. Thus, contrary to popular belief, FDA approval seldom guarantees safety.

THE PHARMACEUTICAL INDUSTRY'S ALLIANCE WITH THE FDA

Since the first edition of this book was published, the amount of reported corruption in the drug industry has skyrocketed. Across the nation and around the world, newspapers, magazines, television and the Internet have regularly carried exposés on doctors who have accepted bribes and gifts, drug companies plagued with lawsuits, pharmaceuticals that have failed to work and instead have caused serious harm, and the drug industry's influence in government. The following report, "FDA Advisers Tied To Industry," provides a good summary:

More than half of the experts hired to advise the government on the safety and effectiveness of medicine have financial relationships with the pharmaceutical companies that will be helped or hurt by their decisions, a *USA Today* study found. These experts are hired to advise the Food and Drug Administration on which medicines should be approved for sale, what the warning labels should say and how studies of drugs should be designed.

The experts are supposed to be independent, but . . . 54% of the time, they have a direct financial interest in the drug or topic they are asked to evaluate. These conflicts include helping a pharmaceutical company develop a medicine, . . . serving on an FDA advisory committee that judges the drug, . . . stock ownership, consulting fees or research grants.⁶⁵

It's against the law for the FDA to use experts with financial conflicts of interest, but the agency waived this restriction more than 800 times from January 1, 1998 through June 30, 2000. "At 92% of the meetings, at least one member had a financial conflict of interest. At 55% of meetings, half or more of the FDA advisers had conflicts of interest." "With few exceptions," the FDA followed the advice of the approximately 300 pharmaceutical "experts" on the eighteen advisory committees.⁶⁶ It's staggering to think that the (then) FDA senior associate commissioner Linda Suydam repeatedly waived the conflict-of-interest restrictions because, she claimed, no better experts could be found than the ones who were also hired by industry!

Who would turn in their homework if they didn't have to?

—Dr. Alastair Wood
associate dean of Vanderbilt Medical School,
commenting on the FDA's failure to require
drug companies to actually test the drugs
they have approved for release.

"New Drugs Hit the Market, but
Promised Trials Go Undone"
The New York Times, March 4, 2006

High-ranking FDA personnel have always been in the news. Daniel Troy had been associated with a Washington, DC law firm, helping drug and tobacco companies circumvent FDA regulations. After becoming chief counsel to the FDA in 2001, Troy invited drug companies to inform him of lawsuits against them—so the FDA could help defend them. Troy also filed briefs defending four drug companies (including Pfizer, SmithKline Beecham Consumer Products, and GlaxoSmithKline) that were being sued for damages by people who had used their products. Troy did his best to hide his ties to Pfizer: he did not tell Congress that Pfizer had paid him \$358,000 in 2001, the same year he'd been appointed to the FDA. After his infractions were revealed in 2004, he resigned.

Lester M. Crawford, MD, another FDA executive, made the news in 2006. He and his wife owned stock in pharmaceutical companies—despite the fact that, *The New York Times* reported, "Senior employees of the [FDA] are prohibited from owning shares in companies the agency regulates."⁶⁷ The Crawfords owned shares in Johnson & Johnson, Merck, Pfizer, Medtronic, and Boston Scientific, as well as shares in more diversified companies that sell health care products: Kimberly-Clark, Pepsico, Wal-Mart, and Sysco. Crawford was charged with, and pleaded guilty to, breaking conflict-of-interest laws, failing to report his stock ownership, and lying to the Justice Department. The article further revealed, "During a period when the Crawfords held shares in Pepsico, a soft drink and snack food company, he was chairman of an FDA Obesity Working Group that among other tasks was reviewing calorie content labeling for soft drinks."⁶⁸ Crawford did not go to jail. He was simply ordered to pay a fine—which no doubt he could easily afford, considering how lucrative dividends from pharmaceutical stocks are. (See Sidebar, page 41, "The True Cost Of Your Prescription Drugs.")

Since the early 2000s, the corruption has not stopped or abated. If anything, it has gotten worse. In 2014, *The Milbank Quarterly* published "Revisiting Financial Conflicts of Interest in FDA Advisory Committees." The author reviewed the voting behavior and financial interests of almost 1,400 FDA advisory committee members who helped approve drugs from 1997 to 2011. "Committee members who serve on advisory boards for sponsoring firms show particularly strong pro-sponsor bias." The probability of approval skyrocketed up to 84%.⁶⁹

The Real FDA

Reading the FDA's inspection files . . . [is] a seemingly endless stream of lurid vignettes . . . Faked X-ray reports. Forged retinal scans. Phony lab tests. Secretly amputated limbs. All done in the name of science when researchers thought that nobody was watching. . . .

When the FDA finds scientific fraud or misconduct, the agency doesn't notify the public, the medical establishment, or even the scientific community that the results of a medical experiment are not to be trusted. . . . As a result, nobody ever finds out which data is bogus, which experiments are tainted, and which drugs might be on the market under false pretenses. The FDA has repeatedly hidden evidence of scientific fraud not just from the public, but also from its most trusted scientific advisers, even as they were deciding whether or not a new drug should be allowed on the market. Even a congressional panel investigating a case of fraud regarding a dangerous drug couldn't get forthright answers. For an agency devoted to protecting the public from bogus medical science, the FDA seems to be spending an awful lot of effort protecting the perpetrators of bogus science from the public. . . .

As part of my investigative reporting class at New York University, my students and I set out to find out just how bad the problem was . . . We didn't have to search very hard to find FDA burying evidence of research misconduct. Just look at any document related to an FDA inspection. . . If you manage to get your hands on these documents, you'll see that, most of the time, key portions are redacted: information that describes what drug the researcher was studying, the name of the study, and precisely how the misconduct affected the quality of the data are all blacked out. . . . My students and I looked at FDA documents relating to roughly 600 clinical trials in which one of the researchers running the trial failed an FDA inspection. In only roughly 100 cases were we able to figure out which study, which drug, and which pharmaceutical company were involved. (We cracked a bunch of the redactions by cross-referencing the documents with clinical trials data, checking various other databases, and using carefully crafted Google searches.) For the other 500, the FDA was successfully able to shield the drugmaker (and the study sponsor) from public exposure.

It's not just the public that's in the dark. It's researchers, too. And your doctor. As I describe in the current issue of *JAMA Internal Medicine*, my students and I were able to track down some 78 scientific publications resulting from a tainted study—a clinical trial in which FDA inspectors found significant problems with the conduct of the trial, up to and including fraud. In only three cases did we find any hint in the peer-reviewed literature of problems found by the FDA inspection. The other publications were not retracted, corrected, or highlighted in any way. In other words, the

FDA knows about dozens of scientific papers floating about whose data are questionable—and has said nothing, leaving physicians and medical researchers completely unaware. . . . It's not just one study, either. . . . The FDA is keeping mum, even as wrongful-death lawsuits begin to multiply.

The FDA's failure to notify the public is not merely a sin of omission. . . . The agency regularly calls in advisers to get advice, or, more cynically, to get cover, about a decision the agency has to make. . . .

The FDA has a history of not notifying the public about the misconduct it finds. About a decade ago, the agency got into trouble over a newly approved antibiotic, Ketek. Inspectors had found extensive problems (including fraud) affecting key clinical trials of the drug. Yet the agency did its best to hide the problems from even its most trusted advisers. As David Ross, the FDA official in charge of reviewing Ketek's safety, put it, "In January 2003, over reviewers' protests, FDA managers hid the evidence of fraud and misconduct from the advisory committee, which was fooled into voting for approval." However, when the reports of misconduct at one clinical site began appearing in the press—along with stories of liver damage and blurred vision associated with the new drug—Congress stepped in, demanding information from the agency about the fraud. But even the Senate couldn't wring key information about the misconduct out of the FDA. "Every excuse under the sun has been used to create roadblocks," complained an indignant Senator Charles Grassley, "even in the face of congressional subpoenas requesting information and access to FDA employees." . . . In the decade since the Ketek affair, it's hard to see any change in behavior by the agency. . . .

[Another time] . . . a research firm named Cetero had been caught faking data from more than 1,400 drug trials. . . . But even after the agency exposed the problem, we found fraud-tainted data on FDA-approved drug labels. (The FDA still maintains its silence about the Cetero affair. . . . the agency refuses to release the names of the 100-odd drugs whose approval data were undermined by fraud.) . . .

Why does the FDA stay silent about fraud and misconduct in scientific studies of pharmaceuticals? Why would the agency allow claims that have been undermined by fraud to appear on drug labels? And why on earth would it throw up roadblocks to prevent the public, the medical community, its advisory panels, and even Congress from finding out about the extent of medical misconduct? . . .

The most common excuse the agency gives is that exposing the details about scientific wrongdoing—naming the trials that were undermined by research misconduct, or revealing which drugs' approvals relied upon tainted data—would compromise "confidential

commercial information” that would hurt drug companies if revealed. . . . Another excuse I’ve heard from the FDA is that it doesn’t want to confuse the public by telling us about problems, especially when, in the FDA’s judgment, the misconduct doesn’t pose an immediate risk to public health. . . . But even the most paternalistic philosophy of public health can’t explain why the FDA would allow drug companies to put data on its labels that the agency knows are worthless, or to fail to flag bioequivalence problems in a publication that is specifically designed for the purpose of flagging those very problems.

The sworn purpose of the FDA is to protect the public health, to assure us that all the drugs on the market are proven safe and effective by reputable scientific trials. Yet, over and over again, the agency has proven itself willing to keep scientists, doctors, and the public in the dark about incidents when those scientific trials turn out to be less than reputable. It does so not only by passive silence, but by active deception. And despite being called out numerous times over the years for its bad behavior, including from some very pissed-off members of Congress, the agency is stubbornly resistant to change. It’s a sign that the FDA is deeply captured, drawn firmly into the orbit of the pharmaceutical industry that it’s supposed to regulate. We can no longer hope that the situation will get better without firm action from the legislature.

—Charles Seife

New York University journalism professor
 “Are Your Medications Safe?”, February 9, 2015
 excerpted from
[slate.com/articles/health_and_science/science/2015/02/
 fda_inspections_fraud_fabrication_and_scientific_misconduct_are_
 hidden_from.htm](http://slate.com/articles/health_and_science/science/2015/02/fda_inspections_fraud_fabrication_and_scientific_misconduct_are_hidden_from.htm)



Ronald Kavanagh, with a BS in Pharmacology, a PharmD, and a PhD, was hired to review the safety of new drugs submitted to the FDA’s Center for Drug Evaluation and Research (CDER). However, he left his ten-year post in 2008 after repeatedly encountering massive corruption.

Managers at CDER have placed the nation at risk by corrupting the evaluation of drugs and by interfering with our ability to ensure the safety and efficacy of drugs. While I was at FDA, drug reviewers were clearly told not to question drug companies and that our job was to approve drugs. We were prevented, except in rare instances, from presenting findings at advisory committees. In 2007, formal policies were instituted so that speaking in any way that could reflect poorly on the agency could result in termination. If we asked questions that could delay or prevent a drug’s approval—which of course was our job as drug reviewers—management would reprimand us, reassign us, hold secret meetings about us, and worse. . . .

I frequently found companies submitting certain data to one place and other data to another place and safety information elsewhere so it could not all be pulled together and then coming in for a meeting to obtain an agreement and proposing that the safety issue is negligible and does not need further evaluation. . . . Sometimes we were literally instructed to only read a 100–150 page summary and to accept drug company claims without examining the actual data, which on multiple occasions I found directly contradicted the summary document. Other times I was ordered not to review certain sections of the submission, but invariably that’s where the safety issues would be. This could only occur if FDA management was told about issues in the submission before it had even been reviewed. In addition, management would overload us with huge amounts of material that could not possibly be read by a given deadline and would withhold assistance. When you are able to dig in, if you found issues that would make you turn down a drug, you could be pressured to reverse your decision or the review would then be handed off to someone who would simply copy and paste whatever claims the company made in the summary document. . . . FDA’s response to most expected risks is to deny them and wait until there is irrefutable evidence postmarketing, and then simply add a watered down warning in the labeling. [One time] a company clearly stated in a meeting that they had “paid for an approval.” . . .

Obviously in such an environment, people will self-censor. . . . the honest employee fears the dishonest employee. . . . After FDA management learned I had gone to Congress about certain issues, I found my office had been entered and my computer physically tampered with. [The FDA secretly spied on *many* of its own scientists, capturing thousands of revealing emails that these employees privately sent to lawyers, journalists and Congressmembers.] . . . I was threatened with prison . . . One [FDA] manager threatened my children . . . I was afraid that I could be killed for talking to Congress and criminal investigators. . . . Congress did put me in contact with the Justice Department, however, I don’t believe my complaints were taken seriously by the FBI or investigated. . . . I found evidence of insider trading of drug company stocks reflecting knowledge that likely only FDA management would have known. . . . I believe I also have documentation of falsification of documents, fraud, perjury, and widespread racketeering, including witnesses tampering and witness retaliation. Scores of criminal prosecutions, convictions, and very long prison terms for current FDA employees . . . [are] necessary.

—excerpted from Martha Rosenberg

“Former FDA Reviewer Speaks Out About
 Intimidation, Retaliation and Marginalizing of Safety”
 July 29, 2012

[truth-out.org/news/item/10524-former-fda-reviewer-speaks-out-
 about-intimidation-retaliation-and-
 marginalizing-of-safety](http://truth-out.org/news/item/10524-former-fda-reviewer-speaks-out-about-intimidation-retaliation-and-marginalizing-of-safety)

THE PHARMACEUTICAL INDUSTRY'S ALLIANCE WITH OTHER GOVERNMENT AGENCIES AND OFFICIALS

The Food and Drug Administration is not the only government agency with fingers in the pharmaceutical money pot. The drug industry has contributed astronomically high sums to political candidates and officials already in office. Twelve years ago, the Center for Public Integrity—a nonprofit organization focusing on politics, immigration, worker rights and “national security”—had a different focus. It was investigating drug companies so it could educate people “with tools and skills they need to hold governments and other institutions accountable.”⁷⁰ Even though the data below is over ten years old, it’s worth reviewing because the strategies of the drug industry have not changed. (One has to wonder why the medical data is no longer on the CPI website.)

In the area of lobbying alone, the CPI reported that the pharmaceutical industry:

- ◆ Employed [between October 1998 and April 2005] . . . almost 3,000 professional lobbyists, more than “any other organized interest,” including insurance companies.⁷¹
- ◆ Engaged 1,291 lobbyists in 2004, “some 52% [of whom] were former federal officials.”⁷² “This included more than 50 former members from the House [of Representatives] and a dozen from the Senate.”⁷³
- ◆ Lobbied “on more than 1,400 congressional bills since 1998 and spent a whopping \$612 million during that period.”⁷⁴
- ◆ Spent nearly \$116 million lobbying the government in 2003, and \$123 million in 2004.⁷⁵
- ◆ Utilized, since 1998, “four and a half pharmaceutical industry lobbyists . . . for every member of Congress in office.”⁷⁶

The slang phrase *Big Pharma* has captivated the attention of drug industry critics and even been used in the mainstream press. This phrase is probably derived from the name of the trade association Pharmaceutical Research and Manufacturers of America, whose acronym is PhRMA. PhRMA, the tenth largest lobbying organization in the US, represents more than forty of the world’s best-known drug companies. The CPI reported that “besides its 38 in-house lobbyists, PhRMA employed 160 lobbyists . . . [from] 2003 to 2004. Since 1998, the organization used 64 different firms to lobby 35 federal agencies on 38 issues.” In addition, PhRMA spent more

than \$65 million on lobbying from October 1998 through April 2005.⁷⁷

Gifts to politicians have played a huge role in the pharmaceutical industry’s romance with government. A study of more than 25,000 public documents, conducted by CPI, revealed that members of Congress, their staff, and aides received almost \$50 million worth of 23,000 privately funded trips, and “repeatedly ignored travel disclosure requirements and House and Senate rules.”⁷⁸

FDA personnel were also courted. Although policy forbids employees from taking trips paid for by health-related companies, significant amounts were spent on gifts to FDA employees. The FDA used an “apparent loophole” in the law, stated the CPI, to accept over “\$1.3 million in sponsored travel since 1999 from groups closely tied to pharmaceutical and medical device companies.” This money was used to “fly and host agency employees. Eleven drug safety board members were among the travelers sponsored. . . . Nonprofit groups and universities with . . . ties [to Big Pharma] paid for roughly a third of the more than 3,600 trips taken by [FDA] officials.”⁷⁹

It’s common knowledge that Big Pharma regularly contributes large sums to political groups and candidates sympathetic to its advancement. Data analyzed by CPI showed that executives, employees and political action committees of drug companies:

donated more than a combined \$18 million to state political groups and candidates from 2001 to 2004. . . . Pharmaceutical companies also spent significant amounts themselves on campaign donations to state candidates [with] favored positions on issues important to the industry. Pfizer contributed more than \$3 million to candidates for state office over the period; Eli Lilly and GlaxoSmithKline each gave more than \$2.2 million.⁸⁰

Not all of the money the drug industry spends is reported to the Internal Revenue Service (IRS). In 2002, PhRMA gave \$41 million in political contributions to pro-drug industry candidates. According to a report issued by another monitoring group, Public Citizen, PhRMA failed to mention most of these contributions to the IRS. These contributions were funneled through organizations claiming to be advocacy groups for senior citizens, which exempted PhRMA from having to disclose funding sources. Not surprisingly, instead of being used to make the lives of elders easier, the money paid for ads that supported political candidates who were friendly to the interests of Big Pharma/PhRMA.⁸¹

The True Cost of Your Prescription Drugs

Did you ever wonder how much it costs a drug company for the active ingredient in prescription medications? . . . We did a search of offshore chemical synthesizers that supply the active ingredients found in drugs approved by the FDA . . . A significant percentage of drugs sold in the United States contain active ingredients made in other countries [and which may be contaminated with heavy metals and other impurities]. In our independent investigation . . . we obtained the actual price of active ingredients used in some of the most popular drugs sold in America.

So often, we blame the drug companies for the high cost of drugs, and usually rightfully so. But in this case, the fault clearly lies with the pharmacies themselves. For example, if you . . . bought the name brand, you might pay \$100 for 100 pills. The pharmacist might tell you that if you get the generic equivalent, they would only cost \$80, making you think you are “saving” \$20. What the pharmacist is not telling you is that those 100 generic pills may have only cost him \$10! . . . This helps to solve the mystery as to why they can afford to put a Walgreen’s [a combination pharmacy and convenience store] on every corner. The chart below speaks for itself.

Drug and mg dose	Retail (100 tablets)	Cost, active ingredients	Markup (%)
Celebrex®, 100 mg	\$ 130.27	\$ 0.60	21,712 %
Claritin®, 10 mg	\$ 215.17	\$ 0.71	30,306 %
Keflex®, 250 mg	\$ 157.39	\$ 1.88	8,372 %
Lipitor®, 20 mg	\$ 272.37	\$ 5.80	4,696 %
Norvasc®, 10 mg	\$ 188.29	\$ 0.14	134,493 %
Paxil®, 20 mg	\$ 220.27	\$ 7.60	2,898 %
Prevacid®, 30 mg	\$ 44.77	\$ 1.01	34,136 %
Prilosec®, 20 mg	\$ 360.97	\$ 0.52	69,417 %
Prozac®, 20 mg	\$ 247.47	\$ 0.11	224,973 %
Tenormin®, 50 mg	\$ 104.47	\$ 0.13	80,362 %
Vasotec®, 10 mg	\$ 102.37	\$ 0.20	51,185 %
Xanax®, 1 mg	\$ 136.79	\$ 0.024	569,958 %
Zestril®, 20 mg	\$ 89.89	\$ 3.20	2,809 %
Zithromax®, 600 mg	\$ 1,482.19	\$ 18.78	7,892 %
Zocor®, 40 mg	\$ 350.27	\$ 8.63	4,059 %
Zoloft®, 50 mg	\$ 206.87	\$ 1.75	11,821 %

—Sharon L. Davis, Budget Analyst, US Department of Commerce and
Mary Palmer, Budget Analyst, Bureau of Economic Analysis, Office of Budget & Finance
[rense.com/general54/preco.htm](http://www.budget.gpo.gov/general54/preco.htm) (August 14, 2004)



The True Cost of Your Hospital Stay

In America today, hospitals and doctors are blatantly ripping us off and they aren’t making any apologies for it. . . . Some hospitals mark up treatments by *1,000 percent*. . . . Basic medical supplies are being billed out at hundreds of times what they cost providers. For example, it has been reported that some hospitals are charging up to 30 dollars for a single aspirin pill. . . . These medical predators get their hands on us when we are at our most vulnerable. . . . In our lowest moments we are willing to pay just about anything to get better or to make the pain go away. And so they very quietly have us sign a bunch of forms without ever telling us how much everything is going to cost. Eventually when the bills come in the mail, it is too late to do anything about it. . . . US hospital charges continue to soar . . . *charging more than ten times the total cost—or almost \$1,200 per \$100 of the cost of care*. Meanwhile, the hundred priciest hospitals in the nation were found to have this cost ratio begin at *765 percent*, which is more than twice the national average of *331 percent*.

—Michael Snyder “Hospitals Are Blatantly Ripping Us Off,” June 9, 2015
theeconomiccollapseblog.com/archives/hospitals-are-blatantly-ripping-us-off

The Politics of Price Gouging

- ◆ The claim that drugs are a \$200 billion industry is an understatement. According to government sources, that is roughly how much Americans spent on prescription drugs in 2002. . . . But it does not include the large amounts spent for drugs administered in hospitals, nursing homes, or doctors' offices (as is the case for many cancer drugs). In most analyses, they are allocated to costs for those facilities. . . . So the \$200 billion colossus is really a \$400 billion megacolossus.
- ◆ The people hurting most are senior citizens. . . . In 2002, the average price of the 50 drugs most used by senior citizens was nearly \$1,500 for a year's supply.
- ◆ More people . . . trade off drugs against home heating or food. Some people try to string out their drugs by taking them less often than prescribed, or sharing them with a spouse. Others, too embarrassed to admit that they can't afford to pay for drugs, leave their doctors' offices with prescriptions in hand but don't have them filled. Not only do these patients go without needed treatment but their doctors sometimes wrongly conclude that the drugs they prescribed haven't worked and prescribe yet others—thus compounding the problem. . . . In one of the more perverse of the pharmaceutical industry's practices, prices are much higher for precisely the people who most need the drugs and can least afford them.
- ◆ In 2001, the ten American drug companies in the Fortune 500 list (not quite the same as the top ten worldwide, but their profit margins are much the same) ranked far above all other American industries in average net return, whether as a percentage of sales (18.5%), of assets (16.3%), or of shareholders' equity (33.2%). These are astonishing margins. For comparison, the median net return for all other industries in the Fortune 500 was only 3.3% of sales. Commercial banking, itself no slouch as an aggressive industry with many friends in high places, was a distant second, at 13.5% of sales. . . . The most startling fact about 2002 is that the combined profits for the ten drug companies in the Fortune 500 (\$35.9 billion) were more than the profits for all the other 490 businesses put together (\$33.7 billion). . . . When I say this is a profitable industry, I mean really profitable. It is difficult to conceive of how awash in money Big Pharma is.
- ◆ Research & Development (R&D) is a relatively small part of the budgets of the big drug companies—dwarfed by their vast expenditures on marketing and administration, and smaller even than profits. . . . The prices [that] drug companies charge have little relationship to the costs of making the drugs and could be cut dramatically without coming anywhere close to threatening R&D. . . . The biggest single item in the budget is neither R&D nor even profits but something usually called "marketing and administration." . . . In 1990, a staggering 36% of sales revenues went into this category, and that proportion remained about the same for over a decade. Note that this is two and a half times the expenditures for R&D.
- ◆ One could hope drug companies would decide to make some changes—trim their prices, or at least make them more equitable, and put more of their money into trying to discover genuinely innovative drugs, instead of just talking about it. But that is not what is happening. Instead, drug companies are . . . marketing their me-too [copycat] drugs even more relentlessly [as well as] pouring more money into lobbying and political campaigns.

—Marcia Angell, MD

excerpted from "The Truth About the Drug Companies," *New York Review of Books*, 2004

and

The Truth About the Drug Companies: How They Deceive Us and What to Do About It, 2004

Big Pharma, reported CPI, also funds pending legislation, having contributed \$83 million "to lobby on the California health care and drug discount referendum issue in 2005."⁸² The referendum would have given discounts for prescriptions to low and middle-income people. On the surface, this discount may seem innocuous or even helpful. However, this bill allocated the funds from taxes foisted on taxpayers, with Big Pharma as the primary beneficiary. Fortunately, Californians defeated the bill.

In 2010, Americans for Campaign Reform posted a fact sheet (acrrreform.org) on the politician-drug industry

collaboration. And "Who Owns Congress?," an article in the non-mainstream magazine *Mother Jones*, succinctly divided up members of the United States Congress and Senate based not on political party affiliation, but on the industries that had given them money.⁸³ There are many politicians with conflicts of interest—that is, financial ties to Big Pharma. They support bills favorable to the drug industry in exchange for having been given huge sums of money for their election campaigns. After serving their political term, they might go to work for the drug companies.

THE PHARMACEUTICAL INDUSTRY'S ALLIANCE WITH UNIVERSITIES AND OTHER RESEARCH INSTITUTIONS

Big Pharma's Free Handouts

Marcia Angell, a respected medical doctor, was Senior Lecturer in Social Medicine at Harvard Medical School and Editor-in-Chief of *The New England Journal of Medicine*. In her 2004 book, *The Truth About the Drug Companies*, Dr. Angell recounts the liaisons between drug manufacturers, universities, and presumably objective medical publications.

Only a handful of truly important drugs have been brought to market in recent years, and they were mostly based on *taxpayer-funded* research at academic institutions, small biotechnology companies, or the National Institutes of Health (NIH). . . . [The Senate-approved Bayh-Dole Act] enabled universities and small businesses to patent discoveries emanating from research sponsored by the National Institutes of Health, the major distributor of tax dollars for medical research, and then to grant exclusive licenses to drug companies. . . . Bayh-Dole also transformed the ethos of medical schools and teaching hospitals. These nonprofit institutions started to see themselves as “partners” of industry, and they became just as enthusiastic as any entrepreneur about the opportunities to parlay their discoveries into financial gain. Faculty researchers were encouraged to obtain patents on their work . . . (assigned to their universities), and they shared in the royalties. . . .

As the entrepreneurial spirit grew, . . . medical school faculty entered into other lucrative financial arrangements with drug companies, as did their parent institutions. . . . These laws mean that *drug companies no longer have to rely on their own research for new drugs*. . . . Increasingly, they rely on academia, small biotech startup companies, and the NIH. . . . One of the results has been *a growing pro-industry bias in medical research—exactly where such bias doesn't belong*. [emphasis added]⁸⁴

The FDA protects the big drug companies and are subsequently rewarded, and using the government's police powers they attack those who threaten the big drug companies. People think the FDA is protecting them. It isn't. What the FDA is doing and what the public thinks it is doing are as different as night and day.

—Dr. Herbert Ley
Commissioner of the FDA in the late 1960s,
who quit in frustration.
Quoted in the *San Francisco Chronicle*, January 2, 1970

Bribes and Gifts to Doctors

Doctors have been wined, dined and courted in myriad ways by pharmaceutical industry representatives. In 2000, *The Journal of the American Medical Association* published a study revealing that “interactions between physicians and the pharmaceutical industry are not as innocuous as they seem. Pharmaceutical companies spend more than \$11 billion each year to promote and market drugs, an estimated \$8,000 to \$13,000 per physician per year.”⁸⁵ In 2006, a reporter wrote that drug companies “spend more than \$20 billion annually in the United States on marketing activities directed at doctors and other health professionals, which is more than five times what they spend on television ads.”⁸⁶

These billions of dollars are spent on meals, entertainment (during which reps give sales presentations), books, medical supplies, “consultation fees,” awards of airline miles, gasoline, and even Christmas trees. Perhaps the most insidious gift, however, comes in the form of conferences that offer continuing medical education (CME) credits. Every year or two, medical professionals are required to attend health-related seminars to obtain the necessary credits toward license renewal. The goal,

which is laudable, is to teach medical professionals the most current information and techniques in their areas of expertise. But there's guaranteed to be a conflict of interest when pharmaceutical companies offer seminars authorized to confer CME credit. One can only imagine what “education” is being fed to attendees as innovations in their field.

In February 2006, the *Chicago Tribune* reported similar perks offered to British physicians by sales representatives for Abbott Laboratories. The sales reps offered not only “lap dances” at an adult sex club, but treated more than 60 health professionals to Centre Court Wimbledon seats and greyhound race track tickets. In response, Britain's leading drug industry trade group, the Association of the British Pharmaceutical Industry, suspended Abbott's membership for at least six months. Although this suspension did draw public attention to the ethics violations, and the presumably small number of employees involved were fired (or resigned), Abbott was still permitted to sell drugs without restriction in the United Kingdom. The *Chicago Tribune* article described the behavior of the

Abbott employees and the doctors involved as “troubling . . . because it occurred after the industry said it would begin policing itself.”⁸⁷ Despite the copious negative press, and doctors’ public statements that they would disengage from drug industry influence, the problem persists. A national survey in the April 2007 issue of the *New England Journal of Medicine* found that 94% of doctors reported having some relationship with drug companies. Seventy-eight percent accepted drug samples; 18% received payments for “consulting”; 16% received payments for speaking; 15% were reimbursed for travel, food and lodging (identified as “meeting expenses”); and 7% accepted tickets to sporting or cultural events. A whopping 83% were treated to food or drink.⁸⁸

The billions spent each year by drug companies create loyalty to specific brands. One researcher, who reviewed 29 studies of interactions between doctors and the drug industry, found that the doctors’ practices were affected in four major ways:

Physicians prescribed a drug manufactured by the sponsor of a medical education program more frequently, hospitals increased their prescribing of a conference travel sponsor’s drug, residents increased “nonrational” prescribing of a drug following a meeting with a company representative, and attitudes about drug company representatives became more positive. The researcher noted that interactions between MDs and pharmaceutical representatives begin in medical school and continue at a rate of about four meetings per month.⁸⁹

Busy doctors find it difficult to remain informed about the latest developments in drugs, so their interaction with drug company reps expedites their “education.” Perhaps most troubling about this lack of ethics is the very real risk to people’s health—not to mention lives. Gifts lead to higher health care costs through the prescribing of expensive brand name, rather than generic, drugs. Even more troubling, doctors tend to select whatever new product has just been peddled to them.

There’s another unethical practice resulting from the physician-drug company marriage. A surprisingly large number of doctors hired by Big Pharma to test drugs recruit their own patients into the studies for a per-patient fee. Even after the physicians have been disciplined by state medical boards, drug makers continue to hire them. In one such case, psychiatrist Faruk Abuzzahab had his license suspended for seven months, and restricted for another two years, by the Minnesota Board of Medical Practice. The Board accused him of a “reckless, if not willful, disregard” for the welfare of 46 people in his care, five of whom died. One of the five—a man whom Abuzzahab was pressuring to participate in a clinical trial—refused; so the physician immediately discharged him from the hospital, even though the man was deteriorating and in fact was suicidal. Two weeks later, the man killed himself. Despite Abuzzahab’s record and the public disciplinary action, he continued to be employed by drug makers to run so-called clinical trials. In fact, in Minnesota alone, from 1997 to 2005, over 100 doctors who had been disciplined by the state medical board accepted, collectively, \$1.7 million from pharmaceutical companies.⁹⁹

The American Medical Association climbed into bed with the Rockefeller and Carnegie interests in 1908 for the praiseworthy purpose of upgrading American medicine . . . [and] has been sharing the sheets ever since.

The impact of this organization on the average physician is probably greater than even he recognizes. First of all, the medical student cannot obtain an MD degree except at a school that has been accredited by the AMA. . . . If he decides to become a specialist, his residency must conform to AMA requirements. . . . To prove his standing as an ethical practitioner, he must apply to and be accepted by his county and state societies in conformity with AMA [allopathic] procedures. AMA publications provide him with continuing education in the form of scientific articles, research findings, reviews and abstracts from medical books, . . . evaluations of new drugs, foods, and appliances.

The AMA spends millions of dollars per year for television programs to affect public opinion, maintains one of the richest and most active lobbies in Washington, spends many millions in support of favored political candidates, and is instrumental in the selection of the Commissioner of the Food and Drug Administration.

Who controls the AMA? Most people would assume that the dues-paying members control their own association, but nothing could be further from the truth. . . . [The permanent] leadership maintains firm control over . . . [resolutions put forth by reference committees] appointed by the Speaker of the House, not by the delegates [doctor members]. The committees are stacked to carry out the will of the leadership.

Altogether the AMA now derives over \$10 million per year in advertising, which is almost half of the Association’s total income. Who advertises in the AMA Journal and related publications? The lion’s share is derived from the Pharmaceutical Manufacturer’s Association whose members make up 95% of the American drug industry.

—G. Edward Griffin
World Without Cancer, 1997

SOME TALES OF APPROVAL

The FDA is responsible for approving thousands of drugs per year; but we will explore its approval process by reviewing just one drug and one food additive. These two examples work very well to show the revolving door policy between FDA officials and drug company personnel—and in many cases, their attorneys too. As you read, keep in mind that there are hundreds, if not thousands, of drugs and additives whose stories are similar. The names of the products and personnel change, but the basic scenario is the same.

rBGH (or rBST)

Often, drugs are hastily approved because high-ranking FDA personnel are comprised of former or future drug company employees. The story of rBGH (recombinant bovine growth hormone) is particularly insidious, because after the drug was approved, a major media network as well as the manufacturer and the FDA attempted to suppress the truth about its dangerous effects. rBGH is not a typical veterinary drug. Intended to induce cows to produce more milk, it must be injected into the animals daily. But rBGH ends up in the food supply, so the average consumer is drugged each time milk, butter, cheese, cream, ice cream or yogurt are ingested.

rBGH was developed by Dr. Margaret Miller, one-time researcher for the chemical corporation Monsanto, which is famous for its drugs and pesticides. Rose Marie Williams, columnist for the holistic journal *Townsend Letter*, describes how the drug was developed:

Bovine Growth Hormone (BGH) is naturally produced by the pituitary gland in cows and stimulates milk production. The recombinant form (rBGH) is a genetically engineered combination of the cow gene for BGH and DNA from *Escherichia coli* (*E. coli*) bacteria. Therefore, it cannot be identical to the natural hormone produced by the cow as is claimed by Monsanto.⁹¹

The recombinant form of Bovine Growth Hormone was easy to approve at the FDA. After she finished her work at Monsanto, Miller was hired as part of the FDA staff, where she was put in charge of evaluating her own research. “FDA’s standard cancer test for a new human drug requires two years testing on several hundred rats,” Williams writes, but the artificial hormone “was tested for only 90 days on 30 rats before being approved.”⁹²

As one might expect, with such shoddy testing there was bound to be trouble. Although some dairy farmers

reported positive experiences with the drug, more than half did not. Among at least 20 adverse effects were a 79% increase in mastitis (inflammation of the udder, which raises the amount of pus in the milk), increased digestive upset including diarrhea, higher incidence of lameness, more metabolic disorders, and increased multiple births. The damage was not borne solely by the cows, either: humans who consumed dairy products from these cows also developed health problems, including higher than usual incidences of colon, lung, prostate and breast cancers as well as a dramatic increase of multiple births.

Attempts to disclose this data on a mass scale were heavily resisted. In late 1996, Fox Television wife-and-husband journalist team Jane Akre and Steve Wilson were assigned to do a story reassuring consumers that rBGH was safe. Much to their surprise, after interviewing dairy farmers and reviewing studies linking the effects of rBGH to cancer in humans, they discovered just how dangerous the drug was. Hours before broadcast, the Fox News station cancelled the show after Monsanto threatened “dire consequences”⁹³ if the stories aired.

Pressured by Fox lawyers, Akre and Wilson rewrote the story more than eighty times. After threats of dismissal and offers of six-figure sums to drop their ethical objections and keep quiet, the Florida-based team was fired in December 1997. In 1998, Akre filed a suit against Fox for violating Florida’s Whistleblower Law, which makes it illegal to retaliate against a worker who threatens to reveal employer misconduct. She is the first reporter to ever use the Whistleblower Law against her own employer. The *BHG Bulletin* summarizes: “After a five-week trial and six hours of deliberation that ended in August 2000, a jury awarded Akre \$425,000 in damages, unanimously agreeing that Fox ‘acted intentionally and deliberately to falsify or distort the plaintiffs’ news reporting on BGH.’ In that decision, the jury also found that Jane’s threat to blow the whistle on Fox’s misconduct to the FCC was the sole reason for the termination.”⁹⁴

In February 2004, Fox unexpectedly won an appeal, which withdrew the settlement that had been awarded to Akre. Incredibly, Fox’s lawyers argued that under the protection of the First Amendment, broadcasters had the right to lie on public airwaves! There were no laws, they stated, that forbade a media outlet from distorting the news. The Federal Communications Commission agreed. In 2007, it closed the case—stating that because distorting the news was not against the law, Fox was free to do what it wanted, and therefore Akre’s use of the whistleblower law was invalid.

For a long time after the trial, both Akre and Wilson were blacklisted by the media and could not find jobs—

even though both had won many awards, including four Emmy® Awards (Wilson), and the Associated Press award for investigative reporting (Akre). Eventually, Steve Wilson became chief investigative reporter for WXYZ-TV in Detroit, the most prestigious of ABC affiliate stations. They formed their own production company, and continue to do groundbreaking reporting.

As Jane Akre and Steve Wilson discovered, it takes money and persistence to bring information to the public that is unfavorable to Monsanto. Aware of growing consumer resistance to ingesting unnatural hormones along with their food, Monsanto undertook another approach: lawsuits against dairy companies to prevent them from labeling their products “does not contain rBGH.” After a long fight, the dairy companies (and consumers) won the right to have products that are labeled. However, the victory was only partial. In the United States today, thanks to Monsanto’s close ties with government, products free of rBGH must state that there is no difference between items that contain rBGH and items that do not contain rBGH.

In another clever move, Monsanto decided to rename its product. “Aware that some consumers may be put off by the word *hormone*,” Williams writes, “Monsanto now refers to the drug as supplemental bovine somatotropin or ‘supplemental BST.’”⁹⁵ Monsanto also tried to get a law passed that forbids dairy manufacturers from stating that their milk and milk products are free of supplemental growth hormone. The company’s public relations group claims that informative labels only make consumers unnecessarily afraid. In the meantime, consumers are getting a clear message: it’s okay for the media and corporations to lie.

In its latest clever move, in the summer of 2018 Monsanto merged with Bayer, another huge conglomerate. Probably to improve its deservedly wretched reputation worldwide, the name of Monsanto is now hidden by the merger. To avoid litigation for engaging in illegal antitrust activities, Bayer sold its seed and herbicide business to the German chemical company BASF. However, the intent and activities of Monsanto continue, regardless of what name it currently hides behind.

Aspartame

The food-regulating performance of the Food and Drug Administration is as dismal as its drug-regulating performance. The story of aspartame is worth discussing in depth because it pervades our food supply. Many people use this sweet white powder outright, or eat any number of the 5,000 products in which it appears. The general public believes that aspartame is harmless, and even helpful, because it’s intended as a replacement for cavity-causing sucrose (table sugar). Aspartame has also been promoted as a safe alternative to saccharin, an

artificial sweetener derived from coal tar that not only is carcinogenic, but has recently been discovered to destroy the beneficial flora in the gut. However, aspartame isn’t any safer than what it replaces. Among other hazards, it’s a highly dangerous neurotoxin.

Originally given the brand name NutraSweet®, aspartame has also been marketed under the names Equal®, Spoonful®, Canderel®, Equal-Measure®, Benevia®, Misura®, and AminoSweet®. (The word “amino” suggests naturally occurring amino acids, the

building blocks of protein, in an attempt to bypass consumer fears.) Aspartame was produced by other companies after the patent of its first manufacturer, Searle, expired in 1992.

In July 1974, the FDA delayed approval of aspartame in dry foods due to many independent tests affirming the chemical’s dangers. One study by Dr. John Olney, research psychiatrist from the Washington School of Medicine, revealed holes in the brains of mice after they consumed aspartic acid, a major ingredient in aspartame. In another study, Dr. Harry Waisman, Professor of Pediatrics at the University of Wisconsin, fed aspartame in milk to seven infant monkeys. After 300 days, five of them had *grand mal* seizures and one of them died. Milk tends to mitigate some damage from the chemical, so imagine what might have occurred had the monkeys not been fed milk.

In 1975, an FDA-appointed task force discovered that when Searle had initially submitted research to the FDA, all negative data—including the development of tumors in many of the aspartame-fed animals—was omitted from the report. Searle personnel had simply removed the tumors surgically and reported the animals as healthy

The Fairness Doctrine Is No Longer Fair

The Fairness Doctrine, introduced by the Federal Communications Commission in 1949, required the holders of broadcast licenses to present both sides of a controversial issue—and to do so in an honest and balanced way. Also, to keep their licenses, radio and TV stations had to devote 30 minutes a day to public interest programs. In 1987, the FCC repealed the Fairness Doctrine. Soon after, when news departments were required to generate income, presumably objective reports began to feature “news” about the the same corporations that were pouring millions of advertising dollars into the media.

without checking them for cancer. As a result of these findings, in 1977 a second task force was assigned to investigate the conclusions of the first task force. After this group also charged that Searle had falsified data, the FDA ordered a grand jury investigation of Searle's aspartame studies. Yet during the time the grand jury was active, it did not initiate any legal action against Searle. After the grand jury disbanded, Assistant US Attorney William Conlon, a member of the grand jury, accepted employment with the law firm that represented Searle.

Concurrently in 1977, Searle hired as its CEO former White House Chief of Staff Donald Rumsfeld—and aspartame's status as safe was virtually guaranteed. In January 1981, very soon after Rumsfeld promised a speedy approval, aspartame was indeed approved for use in dry foods by Dr. Arthur Hayes, who had just become FDA Commissioner despite objections by the FDA's own Public Board of Inquiry. In 1983, Hayes approved aspartame for use in diet soft drinks. One month later, Hayes left the FDA—and a few months after that, he began working for the advertising agency that handled NutraSweet®. Hayes joined the firm with a 10-year contract at \$1,000 a day.⁹⁶

Meanwhile, complaints to the FDA about aspartame multiplied. People's symptoms included, but were not limited to: arthritis; autoimmune disorders such as Lupus; burning of the eyes, blurry vision and blindness; digestive disorders, including nausea and vomiting; hearing loss and tinnitus (ringing in the ears); heart problems, including chest pain, palpitations and hypertension; muscle cramping and joint pain; neurological problems, including depression, memory loss, Multiple Sclerosis,

hyperactivity, tremors, seizures, Alzheimer's, slurred speech, headaches, migraines, dizziness, and Parkinson-like symptoms; respiratory problems, including asthma and chronic cough; sexual problems, including infertility, impotence and menstrual problems; tumors of the testicles, breasts and brain; urinary disorders, including burning when urinating; and even coma and death. Not surprisingly, a chemical of this magnitude also creates birth defects in fetuses of pregnant women. This huge range of conditions is due to the ability of aspartame to so thoroughly affect the brain and nervous system. Thus, it can mimic any symptoms and worsen other conditions that are already present.

The new FDA commissioner, ignoring the agency's own register of 10,000 complaints, refused to demand an analysis of the chemical—despite confirmation from respected researchers that after being stored in the refrigerator for only ten weeks, aspartame breaks down and releases formaldehyde and diketopiperazine (known to cause brain tumors). Diet Coke®, a favorite beverage of teenagers, is often stored for that period of time before being consumed.

Then the FDA complaints somehow disappeared entirely. Although the agency had once listed 92 adverse reactions from aspartame—and, in fact, sent a list to all who queried or complained—in 1996, the FDA stopped taking complaints and now denies the report's existence.

By now, enough people had been injured to create a shift. In September 2004, the National Justice League filed charges in a California court against, among other defendants, NutraSweet® Co., the American Diabetes

[The pharmaceutical industry] has moved very far from its original high purpose of discovering and producing useful new drugs. Now primarily a marketing machine to sell drugs of dubious benefit, this industry uses its wealth and power to co-opt every institution that might stand in its way, including the US Congress, the Food and Drug Administration, academic medical centers, and the medical profession itself. . . .

The great majority of "new" drugs are not new at all but merely variations of older drugs already on the market. These are called "me-too" drugs. The idea is to grab a share of an established, lucrative market by producing something very similar to a top-selling drug. . . . Of the 78 drugs approved by the FDA in 2002, only 17 contained new active ingredients, and only 7 of these were classified by the FDA as improvements over older drugs. The other 71 drugs approved that year were variations of old drugs or deemed no better than drugs already on the market. The me-too business is made possible by the fact that the FDA usually approves a drug only if it is better than a placebo. It needn't be better than an older drug already on the market to treat the same condition; in fact, it may be worse. There is no way of knowing, since companies generally do not test their new drugs against older ones for the same conditions at equivalent doses. (For obvious reasons, they would rather not find the answer.)

As their profits skyrocketed during the 1980s and 1990s, so did the political power of drug companies. By 1990, the industry had assumed its present contours as a business with unprecedented control over its own fortunes. For example, if it didn't like something about the FDA, the federal agency that is supposed to regulate the industry, it could change it through direct pressure or through its friends in Congress.

—Marcia Angell, MD

excerpted from "The Truth About the Drug Companies," *New York Review of Books*, 2004

and

The Truth About the Drug Companies: How They Deceive Us and What to Do About It, 2004

Association, and Monsanto. (Monsanto had purchased G.D. Searle in 1985, and made Searle Pharmaceuticals and NutraSweet® separate subsidiaries.) Among other charges, the manufacturer and the food conglomerates that used the chemical in their products were accused of racketeering, false advertising, and consumer fraud. The court papers disputed the claim that aspartame is safe (including for children and pregnant women). Donald Rumsfeld was also mentioned in the lawsuit.

The arguments used to justify aspartame's presumed safety are insidious. Proponents claim that because two of aspartame's three ingredients, aspartic acid and phenylalanine, are comprised of amino acids, they are "natural" and thus easily handled by the body. But this isn't true. Normal protein foods contain more than just two amino acids. Eight, nine, or twelve amino acids averts the danger of an imbalance—which *does* occur when only one or two amino acids are ingested. The body distinguishes between the two amino acids in aspartame and the many amino acids in milk or a steak. Clearly, as evidenced by the growing number of complaints about aspartame, this synthetic chemical unbalances the system. Moreover, newer research has shown that aspartame is created with a genetically engineered bacterium.

There's also a problem with methanol, the third ingredient in aspartame. The dictionary defines methanol as "a colorless, volatile, inflammable, poisonous liquid, CH₃OH, obtained by the destructive distillation of

wood and used in organic synthesis, as a fuel, and in the manufacture of formaldehyde, smokeless powders, paints, etc."⁹⁷ The only concession that the FDA finally made to consumers is the requirement that foods containing aspartame be labeled for *phenylalanine*, an amino acid that's acknowledged to be dangerous to people with phenylketonuria (a genetic disorder). These individuals lack the enzyme necessary to metabolize phenylalanine, so the amino acid accumulates in the body. At a high enough level, phenylalanine causes severe brain damage.

Although the uproar over aspartame received some media publicity—including Dr. Frank Walton's report on the television show "60 Minutes," which revealed that of 90 independent studies *not funded by the manufacturer*, 83 showed problems with aspartame—this chemical is still on the market, falsely touted by the FDA as safe.

Splenda® (the brand name for sucralose) is a more recent rival of NutraSweet®. Chemically resembling a pesticide, it's also unsafe. Studies show that it causes swelling of the liver and kidneys, and shrinks the thymus gland (a key component of immune function). Also, sucralose reduces the amount of beneficial intestinal flora by 50%.⁹⁸

After the patent on aspartame expired, Monsanto introduced a newer, slightly modified version of the sweetener called neotame. Neotame is 7,000 to 13,000 times sweeter than sugar. Containing more chemicals than aspartame, neotame is even more toxic than its predecessor.

Politics of the Flu

In 2005, then US president George W. Bush predicted that at least 200,000 people in the US alone, possibly up to *two million*, would die from the avian flu. These figures were dutifully reported in the press, despite the fact that up to that point, only 60 deaths from the flu had been reported.

Once panic was induced in the public, people were then given a "solution." They were assured that a medication called Tamiflu® would take care of the problem. But Tamiflu® caused many more problems than it solved. It could only decrease the amount of time one was sick, by less than 17 hours. But that was minor compared to the drug's many other effects: nausea and vomiting, headaches, kidney malfunction, and arrhythmia. But that's not all. It also contributed to psychiatric and neurological disorders—including convulsions, hallucinations, delusions and suicidal behavior—because it was found to interfere with a vital enzyme that the nervous system needs to properly function. There were even reports of deaths in teenagers and children. And ironically, in some cases the drug caused other symptoms that resembled the flu! But apparently this did not matter. The United States government ordered 20 million doses of the drug, with US taxpayers paying the bill. At \$100 per dose, the drug cache cost \$2 billion. Roche, the pharmaceutical company that manufactured Tamiflu®, collected the funds.

But there was another fact that the general public wasn't immediately told. Although Roche collected the money, the drug had been developed by another company called Gilead Sciences, Inc. at least a decade before. What foresight! Around 1995, Gilead sold Roche the exclusive rights to market and sell Tamiflu®. As part of the agreement, Gilead would receive a royalty from Roche equal to about 10% of sales.

By another remarkable coincidence, former Secretary of Defense Donald Rumsfeld was a member of Gilead's board of directors between 1987 and 2001. Rumsfeld was also its chairman from 1997 until 2001, the year he joined George W. Bush's cabinet as Defense Secretary. Although Rumsfeld was no longer serving in an official capacity on Gilead's governing board, he still held stock in Gilead valued at between \$5 million and \$25 million.

—adapted from globalresearch.ca and articles.mercola.com

HOW DRUGS ARE MARKETED

Standard, common sense language usage indicates that the approval of drugs and the marketing of drugs are two distinctly separate issues. But the cozy relationship between the drug industry and the FDA has merged the two. Billions of dollars a year in advertising help persuade people to take medications. So, let's examine how drugs are marketed.

Corporate-Owned Media

Some readers may like to shop at “mom and pop” businesses—small stores owned by people who live in the neighborhood, and which don't have huge corporations as competitors. A good example is an independent, cozy little coffee shop instead of a Starbucks. Local stores aren't the only businesses forced by mega-corporations to close their doors, though. Once there were privately owned book, newspaper and magazine publishers, as well as independent TV and radio stations.

Today, the word “independent” does not describe major media at all. *A handful of corporations own the media in the United States.* These corporations decide what the public will read, see, watch, and hear. Their intention is to feed us their version of the truth, and have us believe it.

Ben Bagdikian is intimately familiar with the media. In his 1983 book, *The Media Monopoly*, he warned that the 50 corporations that owned the majority of all news media in the US were becoming much too powerful. (“Media” includes all printed and electronic means of information.) Critics laughed at him. In the 4th edition of his book, published just nine years later, Bagdikian pointed out that less than two dozen corporations owned 90% of the mass media. He predicted that eventually this number would drop to about a half dozen companies. By 2000, the publication date of the 6th edition of *The Media Monopoly*, Bagdikian's prediction had proved uncannily prescient: the number of media monopolies had dropped to six. Since 2000, more media mergers have occurred. The expanding media giants now include the Internet market, and there are no signs anytime soon that they will stop trying to control even more public access to information—and hence, the public's consciousness.

In 2004, Bagdikian's (again) revised and expanded *The New Media Monopoly* documented more mergers.

These five [corporations] are not just large, though they are all among the 325 largest corporations in the world . . . [They're] a major factor in changing the politics of the United States and they condition the social values of children and adults alike. These five huge corporations—Time Warner, Disney, Murdoch's News Corporation, Bertelsmann of Germany, and Viacom (formerly CBS)—own most of the newspapers, magazines, books, radio and TV stations, and movie studios of the United States. . . . General Electric's NBC [is] a close sixth.⁹⁹

The dumbing down of America is most evident in the slow decay of substantive content in the enormously influential media, the 30 second sound bites (now down to 10 seconds or less), lowest common denominator programming, credulous presentations on pseudoscience and superstition, but especially a kind of celebration of ignorance.

—Carl Sagan

American astronomer, astrophysicist and author
in *The Demon-Haunted World:
Science as a Candle in the Dark*
(1934–1996)

Bagdikian also discussed the effects of these corporations on popular culture:

They manufacture politics and social values. The media conglomerates . . . have almost single-handedly as a group, in their radio and television dominance, produced a coarse and vulgar culture that celebrates the most demeaning characteristics in the human psyche—greed, deceit, and

cheating as a legitimate way to win (as in the various “reality” shows). . . . [They're also] a major factor in . . . television's increasing crudity and violence because such programs are the cheapest to produce.

These five conglomerates have newspapers and broadcast stations in cities and towns all over the United States, but local people have no voice in what they see and hear, even though, under law, the American public owns the air waves. The five giants fight each other for high ratings in radio and TV, but unseen by the average American, they are quietly corporate partners in joint ventures that make them more like a cartel of interlocked companies.¹⁰⁰

Corporations influence every continent. This is why, decades ago, NBC was able to suppress a news story on the dangers of nuclear power plants. General Electric owns NBC as well as many nuclear plants, and didn't want its stock to fall. Corporate-media marriage also explains why drugs and surgery are pushed, and holistic modalities are ignored, trivialized and slandered. It also explains why most people in the US still haven't heard of Rife Therapy.

Note that six companies own the majority of publications in the science and medical fields.

The Myth of “Peer-Reviewed” Studies

The presumably objective “peer review” process—typical of most scientific journals—is as biased as write-ups from the pharmaceutical companies. In fact, peer review is seriously, *scientifically flawed*. In “Something Rotten at the Core of Science?” the author writes:

A recent US Supreme Court decision and an analysis of the peer review system substantiate complaints about this fundamental aspect of scientific research. Far from filtering out junk science, peer review may be blocking the flow of innovation and corrupting public support of science. . . . [As] most reviewers are likely to be mainstream and broadly supportive of the existing organization of the scientific enterprise, it would not be surprising if the likelihood of support for truly innovative research was considerably less than that provided by chance.¹⁰¹

As the few powerful, wealthy corporations buy smaller companies and make their media empires even larger, the public’s access to the truth becomes even more restricted. This is why I make the effort to seek information from “alternative” sources, both in print publications and on the Internet.

Industry Ties to Medical Journals

An interesting piece, “Scientists Often Mum About Ties to Industry,” appeared in *The New York Times* in 2001.

Scientists who report research findings are expected to divulge any financial ties that might influence their work. But often they do not. . . .

In reviewing 61,134 scholarly articles published in 181 academic journals in 1997, researchers at Tufts University and the University of California at Los Angeles found that just one-half of one percent detailed personal financial interests, including consulting arrangements, honorariums, expert witness fees, company equity and stock, and patents. All of those few disclosures appeared in just a third of the 181 journals. . . . As many as half of all academic researchers consult with industry. . . . Journal editors [says one expert] “are not forceful enough” in requiring disclosure, “or there is widespread disobedience” of their rules.¹⁰²

This conflict-of-interest problem became so serious that in 2000, *The New England Journal of Medicine* apologized to its readers for violating its own rules. It had published

“reviews of the medical literature on drug therapies despite the reviewers’ financial relationships with the companies marketing the drugs.”¹⁰³

Industry-Sponsored, Ghostwritten, and Computer-Generated Articles

Ghostwritten papers from medical school doctors are common. In 2001, drug manufacturer Wyeth-Ayerst hired a company called Excerpta Medica to create a market for its diet drug Redux®. To create this market, Excerpta paid doctors to review and sign articles that were submitted to nine medical journals, without telling the doctors that it (and they) were being funded by Wyeth. Excerpta claimed that the doctors knew about Wyeth’s funding of the supposedly objective articles. But Dr. Richard Atkinson, professor of Medicine and Nutritional Sciences and the director of the Beers-Murphy Clinical Nutrition Center at the University of Wisconsin Madison Medical School—who reviewed and signed one of the Redux® papers—refuted this claim. “If I knew that a drug company had some role, in sponsoring a talk, an article, a symposium, whatever,” he stated, “I think I would be more on my guard to make sure that there was not any bias introduced.” Excerpta Medica did not use the term “ghostwrite.” It said that the authors “facilitate.”¹⁰⁴ Eventually, when Redux® was linked to heart and lung problems, it was pulled from the market and no more promotional articles about it were written.

The Redux® fiasco is a common example of how respected medical journals and otherwise honest doctors become entrapped. Less common—but typical of our electronic age—are computer-generated “studies,” thanks to a program called SCIGen that was invented in 2005 by three graduates of Massachusetts Institute of Technology. Over 200 fake papers from this program were published in journals. In response, a French computer scientist developed a program to analyze whether a study is computer-generated.

Data in Scientific Journals Not Even Correct

Another scandal in the medical and scientific community emerged in the last decade. Large numbers of journal articles were found to be incorrect, and had to be recanted. The authors of these articles did more than “merely” omit data or misrepresent it—they outright invented facts! Most media tried to soften the impact by using euphemisms such as “misleading” and “exaggeration,” but the researchers outright lied. In fact, one article bore the title, “Are scientists lying more than ever?” “The percentage of scientific articles retracted

because of fraud,” it stated, “has increased more than tenfold since 1975.”¹⁰⁵

Rather than focus on infractions by individuals (which can be found in newspaper archives and online), I’ll present an overview. The titles of the reports summarize the problem: “Misconduct accounts for the majority of retracted scientific publications”¹⁰⁶; “Lies, Damned Lies, and Medical Science”¹⁰⁷; and Daniele Fanelli’s 2009 piece, “How many scientists fabricate and falsify research? A systematic review and meta-analysis of survey data,” which examined “behaviours that distort scientific knowledge.” Almost 2% of scientists “admitted to have fabricated, falsified or modified data or results at least once,” while “up to 33.7% admitted other questionable research practices.” When asked to comment on behaviour of colleagues, reports rose to 14.12% for falsification, and “up to 72% for other questionable research practices. . . . [Because] the surveys asked sensitive questions . . . it appears likely that *this is a conservative estimate of the true prevalence of scientific misconduct.* [emphasis added]”¹⁰⁸

Another article, “Why Has the Number of Scientific Retractions Increased?,” explained: “The PubMed database of the National Center for Biotechnology Information was searched on 3 May 2012, using the limits of ‘retracted publication, English language.’ A total of 2,047 articles were identified.” Some of the more serious reasons for retractions were the falsification and complete fabrication of data. The authors defined *falsification* as the “selective manipulation of actual data to present a misleading result,” and *fabrication* as “the manufacture of fictional data.”¹⁰⁹

Back in 2005, a study by Greek epidemiologist John Ioannidis showed that “for most study designs and settings, it is more likely for a research claim to be false than true.”¹¹⁰ His statistical analysis, showing that published data is more than 50% false, is likely more accurate than the findings of Fanelli, who relied on surveys to compile her data. After all, who would willingly expose themselves, even in a survey, for lying? In 2009, Dr. Marcia Angell wrote: “It is simply no longer possible to believe much of the clinical research that is published, or to rely on the judgment of trusted physicians or authoritative medical guidelines. I take no pleasure in this conclusion, which I reached slowly and reluctantly over my two decades as an editor of the *New England Journal of Medicine.*”¹¹¹ In April 2015, medical doctor Richard Horton, editor-in-chief of the respected British journal *Lancet*, bluntly stated:

The very bulk of scientific publications . . . does not deserve to be published at all, and is only published for economic considerations which have nothing to do with the real interests of science.

—John Desmond Bernal
British peace activist, physicist,
and social responsibility advocate
in *The Social Function of Science*, 1939
(1901–1971)

The case against science is straightforward: much of the scientific literature, perhaps half, may simply be untrue. Afflicted by studies with small sample sizes, tiny effects, invalid exploratory analyses, and flagrant conflicts of interest, together with an obsession for pursuing fashionable trends of dubious importance, science has taken a turn towards darkness. As one participant put it, “poor methods get results.” . . . The apparent endemicity of bad research behaviour is alarming. In their quest for telling a compelling story, scientists too often sculpt data to fit their preferred theory of the world. Or they retrofit hypotheses to fit their data. Journal editors deserve their fair share of criticism too. We aid and abet the worst behaviours. . . . Our love of “significance” pollutes the literature with many a statistical fairy-tale.¹¹²

The public (but not the medical community) was shocked by these revelations because scientists have been portrayed as independent of an agenda and dedicated to finding the truth, no matter what the outcome. Why would scientists lie? One reporter summarized the motives:

- ◆ *Profit*: Sometimes there’s money in it—a lot of money. This may be why, according to Fanelli’s report, “surveys conducted among clinical, medical and pharmacological researchers appeared to yield higher rates of misconduct than surveys in other fields.”¹¹³
- ◆ *Laziness and ease of perpetration*: It’s so much easier to just make up data than to perform all those tedious measurements. And in most cases, no one is going to question you about it.
- ◆ *Career pressure*: This is the most common reason. The data isn’t going your way and you may fail to get your thesis accepted, or not get tenure, or miss a promotion, or lose your grant or your job.
- ◆ *Pride*: Scientists are as hungry for praise and prestige as other mortals. And no one likes to be forced to admit he’s wrong. So, when someone contradicts your earlier work, you may be willing to cut a few corners to defend yourself, or to prevent your opponent’s paper from being published.
- ◆ *Ideology*: Many feel that if a cause is worth dying for, it’s worth lying for.¹¹⁴

The Internet Is Co-Opted Too

Many of the world's major medical websites are now owned, either indirectly or directly, by the drug industry. This means that people searching online for medical information—whether they use MedicineNet, WebMD, Medscape or RxList—will not receive accurate information. With huge investments in the drugs they discuss, plus reliance on drug company ads, there's no reason for these websites to be objective or honest.

Publicity Does Not Mean Quality

People in market-driven countries are trained to want more. The media constantly promotes not only products, but now, in this digital age, information as well. We are constantly being told what's important to know and what isn't worth knowing. Often, though, what is easily accessible as "public knowledge" is worthless (and even untrue), while what's hidden is genuinely valuable. I continually hear about serious researchers—often involved in holistic or electromedical therapies that use nutrition and beneficial electromagnetic fields—whose scientifically valid studies, submitted to journals, are rejected because they don't conform to mainstream thinking. This is why many effective lifesaving modalities are never known, or utilized by professionals and the public. The periodicals that claim to report new developments in science actually discourage these reports, because journal advertisers consist of pharmaceutical and medical supply companies—the very businesses that are threatened by innovative, non-drug treatment modalities.

Some scientific journals don't carry huge glossy ads. But this doesn't mean that their publication policies are objective. An editor always tries to match the stories and editorial content to the advertising. If a piece is deemed too controversial, the advertisers take their business elsewhere. Thus the editor is ultimately ruled by finances.

A similar problem exists with funding for scientists, scientific organizations, and universities. They rely on corporations for funding. Even foundations are either directly funded by corporations, or their key personnel have money and other interests tied to corporations.

There's a saying, "Repeat something often enough and people will perceive it as truth." Advertisers count on sheer repetition to sell products. In fact, a decade ago Big Pharma spent over \$60 billion annually on marketing—almost double what it spends on research and development—to ensure that we are not only willing, but eager to ingest their chemicals.¹¹⁵ It's time to stop believing that something is respectable and valid simply because it's constantly repeated.

LEGAL MIND-ALTERING DRUGS

There's a whole other class of drugs that I want to discuss now: legal mind-altering pharmaceuticals, also known as *psychotropic* or *psychoactive* drugs. These drugs, which include tranquilizers, sedatives and antidepressants, affect perception, cognition and behavior. Doctors prescribe psychoactive drugs for both children and adults, but these medications are increasingly being given to the very young. The ostensible reason for administering them is to treat of ADD (Attention Deficit Disorder), ADHA (Attention Deficit Hyperactivity Disorder), dyslexia (characterized by difficulties with reading), various learning disabilities, and hyperactivity. These drugs are very dangerous because they can so radically alter people's behavior. Children and adults do things they ordinarily wouldn't do, such as commit crimes. Since the publication of the 2001 edition of this book, shootings by teenagers, in their homes and in public buildings such as schools, have become grotesquely common. Sometimes the mass murders are followed by the suicides of the killers, and sometimes the person commits suicide without killing others first. Even decades ago, these tragic deaths were linked to prescription psychotropic drugs. Today, the cause-and-effect relationship between the killings and the pharmaceuticals is irrefutable. This relationship has even been occasionally addressed in the mainstream media, although not as consistently or emphatically as it should be.

I will first provide summaries, consisting of the dates and places of the murders, the killers' names, a brief description of their crimes, and then a list of the (legal) drugs they were taking. Then I'll describe the pharmacological effects of many of these drugs; the activism of some parents who want to keep their children sane (but not by medicating them); lawsuits against the drug companies and doctors who insist on drugging the children; and problems in the very diagnoses of these conditions. As you read about the killings, keep in mind that my examples are not a comprehensive list. I have been careful to chronicle *only* those crimes in which the prescribed drugs taken by the killers could be verified. Also, I've done my best to omit the gorier details. My purpose is providing any details at all is to show a pattern: A pharmaceutical is taken; soon after there is markedly changed behavior; then senseless murder occurs (in many cases, of people the killers cared about); and finally, there may be even more drastically altered attitudes in the killers' psyches. These uncharacteristic attitudes range from completely lacking an understanding of what they have done to (in some cases) a total memory blackout

of the murders. Sometimes after the killing sprees, the defendants become themselves again—expressing horror and sincere remorse, and publicly stating that they themselves wish to die for having committed the crimes.

The following drug-related murders, attempted murders, and suicides are listed chronologically from the past to the present. Again, this is only a small sample. Some very informative websites are psychdrugshooters.com, ssristories.org, and thesaveproject.com (from S.A.V.E., an acronym for Stop Antidepressant Violence from Escalating).

Drug-Related Murders

- ◆ In November 1986, 14-year-old Rod Mathews beat a classmate to death with a baseball bat near his home in Canton, Massachusetts. A month before the murder, Rod had written: “My problem is I like to do crazy things. I’ve been lighting fires all over the place. Lately, I’ve been wanting to kill people I hate, and I’ve
- been wanting to light houses on fire. What should I do?”¹¹⁶ Mathews had been taking Ritalin[®] since the third grade.
- ◆ In March 1990, in Portland, Oregon, 16-year-old Courtney Reynolds committed suicide. She had been taking two prescribed antidepressants, Desipramine[®] and Zoloft[®], for six to eight months. According to Ann Tracy, PhD, Executive Director of the International Coalition for Drug Awareness, Courtney was on Prozac[®] at the time of her suicide.
- ◆ In October 1993, in Massachusetts, 15-year-old Gerald McCra, Jr. shot and killed his mother, father, and 11-year-old sister. He’d been taking Ritalin[®] for nine years.
- ◆ In April 1996, 18-year-old Kurt Danysh killed his father with a shotgun. He was taking Prozac[®]. Now, from prison, he writes letters warning that SSRI (Selective Serotonin Reuptake Inhibitor) drugs can kill.

Huge Numbers of Children and Infants Are Being Drugged

When powerful mind-altering drugs are administered to infants and children at a young age, the brain cannot properly develop. The amounts and functions of neurotransmitters (brain chemicals) are changed, the neurotransmitter cell receptor sites are altered, and the brain tissue itself shrinks—of course negatively affecting intelligence and other brain functions. Dr. P. Murali Doraiswamy, professor of psychiatry and medicine at Duke University Medical Center in Durham, North Carolina, cautioned: “Most use in such young children is ‘off label,’ posing safety concerns. For example, a 2013 study of 44,000 children found that antipsychotic drugs tripled the risk for developing diabetes—confirming our warning in 2012 [in the form of a letter to the editor in the *Journal of the American Medical Association*]. . . .”¹¹⁷

The Citizens Commission on Human Rights (cchrint.org) is a nonprofit group dedicated to protecting people from abusive and coercive medical practices, including the act of being forcibly medicated. Below is CCHR’s summary, partly gleaned from IMS Health’s Vector One National and Total Patient Tracker Database for 2013, of how many people are on mind-altering drugs. The numbers of young children and even infants who are given psychotropic drugs is astonishing.¹¹⁸

- ◆ There are 249,669 babies 1 years old and younger who are on anti-anxiety drugs (such as Xanax, Klonopin, and Ativan).
- ◆ There are 26,406 babies 1 years old and younger who are on antidepressants (such as Prozac, Zoloft, and Paxil).
- ◆ There are 1,422 babies 1 years old and younger who are on ADHD drugs (such as Ritalin, Adderall, and Concerta).
- ◆ There are 654 babies 1 years old and younger who are on antipsychotics (such as Risperdal, Seroquel, and Zyprexa).
- ◆ There are 318,997 toddlers age 2 to 3 who are on anti-anxiety drugs.
- ◆ There are 46,102 toddlers age 2 to 3 who are on antidepressants.
- ◆ There are 3,760 toddlers age 2 to 3 who are on antipsychotics.
- ◆ The total number of infants and very young children up to 5 years old who are prescribed psychiatric drugs is 1,080,168.
- ◆ The number of children age 6 to 12 on psychiatric drugs is 4,130,340.
- ◆ The number of children age 13 to 17 years old who are taking psychiatric drugs is 3,617,593.

A deep sense of love and belonging is an irreducible need of all women, men, and children. We are biologically, cognitively, physically, and spiritually wired to love, to be loved, and to belong. When those needs are not met, we don't function as we were meant to. We break. We fall apart. We numb. We ache. We hurt others. We get sick.

—Brené Brown, PhD
author, *The Gifts of Imperfection:
Let Go of Who You Think You're Supposed to Be
and Embrace Who You Are* (2010)

- ◆ In May 1997, 18-year-old Jeremy Strohmeyer raped and murdered a 7-year-old girl in a gambling casino in Nevada. Days before the crime, Jeremy was diagnosed with ADHD and prescribed Dexedrine[®]. He tried to commit suicide by taking the 37 Dexedrine[®] pills remaining in the bottle, and left a suicide note expressing his extreme regret and wish to die. (His stomach was pumped and he was sentenced to life in prison.) Jeremy's legal prescription was not mentioned by the FDA at any of the legal hearings, but the *Los Angeles Times* mentioned the drug.
- ◆ In July 1997 in Kansas City, Missouri, 13-year-old Matthew Miller hanged himself in his bedroom closet. He had been taking Zoloft[®] for six days.
- ◆ In October 1997, in Pearl, Mississippi, 16-year-old Luke Woodham stabbed his mother to death. Then he went to his high school and shot nine people, killing two teenagers and wounding seven. He was taking Prozac[®].
- ◆ In December 1997, 14-year-old Michael Carneal shot at students attending a prayer meeting at Heath High School in West Paducah, Kentucky. Three teenagers were killed and five were wounded. Carneal was taking Ritalin[®].
- ◆ Also in December 1997, during a prayer meeting at a high school in West Paducah, Kentucky, 14-year-old Michael Carneal fired a gun that killed three girls and wounded five other students. He was taking Ritalin[®]. According to his friends, at the time of the shooting Michael was very paranoid. He thought that family and friends were plotting against him, and feared that people were hiding in his home's air vents and beneath the floor, waiting to attack him with a saw. He slept with knives under his bed in case of a burglar's attack.
- ◆ In March 1998, in Huntsville, Alabama, 17-year-old Jeffrey Franklin killed his parents with several tools, including a hatchet and a knife. He then wounded three siblings, trying to murder them. Jeffrey was taking Klonopin[®] (an anti-convulsant), Ritalin[®], and Prozac[®], all prescribed by a doctor who had diagnosed him with ADHD and depression. At Jeffrey's trial, a police investigator told the judge that the boy had described hallucinating horns growing from his head.
- ◆ Also in March 1998, at Westside Middle School in unincorporated Craighead County, Arkansas, 11-year-old Andrew Golden and 14-year-old Mitchell Johnson shot and killed one teacher, four students, and wounded ten others. The boys were taking Ritalin[®].
- ◆ In May 1998, in Springfield, Oregon, 15-year-old Kip Kinkel shot his parents while they slept. The next day, at Thurston High School, he shot and killed two classmates and injured over 20 more. This was shortly after he began taking Prozac[®]. He was taking Ritalin[®] after being diagnosed with dyslexia. Police found a note at his home, which he'd written after murdering his parents. The note said, in part: "I have just killed my parents! I don't know what is happening. I love my mom and dad so much. I just got two felonies on my record. [He'd been arrested in school that day, charged with possessing a firearm in a public building and receiving a stolen weapon.] My parents can't take that! It would destroy them. The embarrassment would be too much for them. They couldn't live with themselves. I'm so sorry. I am a horrible son. I wish I had been aborted. I destroy everything I touch. I can't eat. I can't sleep. I didn't deserve them. They were wonderful people. It's not their fault or the fault of any person, organization, or television show. My head just doesn't work right. God damn these voices inside my head. I want to die. I want to be gone. But I have to kill people. I don't know why. I am so sorry! Why did God do this to me. I have never been happy. I wish I was happy. I wish I made my mother proud. I am nothing! I tried so hard to find happiness. But you know me I hate everything. I have no other choice. What have I become? I am so sorry."¹¹⁹
- ◆ In April 1999, in Notus, Idaho, 15-year-old Shawn Cooper brought a shotgun to his high school and held the entire population hostage for about twenty minutes. He fired two rounds, wounding one student. Shawn was taking Ritalin[®].
- ◆ Also in April 1999, at the Columbine school in Littleton, Colorado, 17-year-old Eric Harris and 18-year-old Dylan Klebold killed twelve students and a teacher, and wounded over 20 more people, before killing themselves. Harris had first been taking Zoloft[®], and then Luvox[®]. Klebold's medical records were never publicly released.

- ◆ In May 1999, at Heritage High School in Conyers, Georgia, 15-year-old Thomas (“TJ”) Solomon shot and wounded six students. He was taking Ritalin®. His classmates said that he had a dazed expression on his face; and although normally an accurate marksman with a rifle, he did not kill anyone—and in fact, seemed to be aiming the gun haphazardly.
- ◆ In April 2000, in the state of Iowa, 13-year-old Chris Fetters murdered a favorite aunt with a kitchen knife, and sobbed, holding the woman as she died. Chris was taking Prozac®.
- ◆ In March 2001, in El Cajon, California, 18-year-old Jason Hoffman opened fire at his California high school, wounding five. He was taking two antidepressants, Effexor® and Celexa®.
- ◆ Also in March 2001, 14-year-old Elizabeth Bush shot and wounded an acquaintance at a high school in Williamsport, Pennsylvania. She was taking Paxil® at the time.
- ◆ In April 2001, in Mattawa, Washington, 16-year-old Cory Baadsgaard brought a rifle to Wahluke High School, and held 23 classmates and a teacher hostage. These were friends, he wrote later, whom he had “never once thought about hurting.”¹²⁰ For ten months, up till three weeks before the incident, he had been taking Paxil®, and then switched to a different antidepressant. He stated (and his father confirmed) that he had been feeling suicidal, and had experienced hallucinations and amnesia while on the drugs. He had no memory of the event.
- ◆ In June 2001, 12-year-old Kara Jaye Anne Fuller-Otter (living in an undisclosed United States location) committed suicide. She had been taking Paxil®, and hanged herself while withdrawing from the drug.
- ◆ In November 2001, 12-year-old Christopher Pittman murdered both his grandparents. He was taking Zoloft®. Prior to the murders, his dosage was doubled. He had also been suicidal and experienced other undesirable effects from the medication.
- ◆ In January 2002, 18-year-old Gareth Christian in Vancouver, Canada, committed suicide. He was taking Paxil®. He was beloved in his community and over one thousand people attended his funeral.
- ◆ In July 2002, Billy Willkomm, a student at the University of Florida, was found by his family, hanging from a tall ladder at the family’s Naples, Florida home. He’d been taking Prozac® since the age of 17.
- ◆ In April 2003, near Lafayette, Indiana, Errol Beumel, Jr. (age unknown) shot his father outside the front door of his house. The father fled and collapsed across the road. His son followed him and shot several more times, killing him. Court testimony indicates that Errol Jr. was taking Adderall®. At the criminal trial, his sister testified that she believed her brother was addicted to Adderall®, and that in six months the drug had transformed him from a conscientious and caring individual into a depraved criminal. Also at the trial, two court-appointed psychiatrists testified that Errol Jr. was insane, unable to distinguish between right and wrong at the time of the murder. Dr. Stephen Berger testified that the defendant suffered from a drug-induced psychosis brought on by Adderall®. Errol Jr. testified that spirits convinced him that his father was the devil, and should be killed.
(At the February 10, 2006 hearing, an FDA advisory panel recommended that the pharmaceutical companies include warning labels, inside a black bordered box, for ADHD drugs. The panel also recommended that a medication guide be provided to parents and patients whenever the drugs were prescribed.)
- ◆ In July 2003, in North Wales, Pennsylvania, 17-year-old Julie Woodward hanged herself in her family’s garage. Diagnosed with depression (she had become withdrawn after transferring schools), she had been taking Zoloft® for only one week.

Kara was a beautiful, loving and spirited child. . . . She is now just a “statistic” alongside very many others. . . .

Kara left this Earth on June 7, 2001, while withdrawing from Paxil. She had been taking Paxil for eight months while we continually requested the doctor to discontinue the drug because it seemed as though it was draining the very life right out of her. . . . the damn doctor wouldn’t take her off it, and I asked him to when we went in on the second visit. I told him I thought she was having some sort of reaction to Paxil, but nothing was indicated on the printout sheet that we received with her prescription. . . .

We asked him what would be the worst reaction she would have if she would discontinue the medication. . . . [and] were told flu-like symptoms for 2–3 days. Kara showed signs of what we know now is called akathisia, the last day of her life.

—“In Memory of Shannon’s Daughter, Kara, Age 12.”
antidepressantsfacts.com/Kara-12-paxil.htm
January 14, 1999

Effects of Some Popular Psychotropic Drugs

This summary does not list: all drugs; all effects; any contraindications; negative reactions if the drugs are taken with other drugs, herbs or foods. *Consult a holistic doctor for a customized natural protocol. And seek medical supervision to wean yourself off these drugs; failure to do so can result in death.*

In some countries, although it's illegal to prescribe these drugs to children under 18 years old, doctors are still permitted to prescribe them "off-label." Read the medicine literature carefully, and research the Internet and the *Physician's Desk Reference*® (available at some libraries).

Most (if not all) of the labels for these drugs warn that because the drugs can cause dizziness, drowsiness or blurred vision, it's unwise to drive, use machinery, or do any activity requiring alertness or clear vision until one's safety is assured. Thanks to decades of demands that these drugs be labeled properly, the labels now indicate that antidepressants have been found to increase the risk of suicidal thoughts and behavior in children, adolescents and adults.

Antidepressants. *Antidepressants typically affect the absorption and location of various neurotransmitters—chemical messengers responsible for mood, mental processes, sensation, motor control, and much more—that are in the brain, nerve cells and even the gut. A chemist may classify antidepressants according to how many rings of atoms they contain (tricyclic or tetracyclic compounds); but the general public is more familiar with the names of antidepressant drugs according to which neurotransmitters are involved. SSRI and SNRI drugs are the most common.*

SSRI, or Selective Serotonin Reuptake Inhibitor Drugs. *Serotonin is a neurotransmitter released by nerve cells and utilized in the brain and the gut. SSRI drugs change the levels of serotonin available to the brain by preventing some of the serotonin normally produced by the body from being reabsorbed back into the nerve cells. SSRI drugs are used for people diagnosed with depression, bulimia nervosa (an eating disorder), obsessive-compulsive disorder (OCD), anxiety and panic disorders, post-traumatic stress disorder (PTSD), and premenstrual dysphoric disorder (PMDD).*

Natural Substitutes: *(a) The amino acid tryptophan (a precursor to serotonin), or 5-hydroxy-tryptophan (the brain chemical into which tryptophan is converted before it's transformed into serotonin). (b) The herb St. John's Wort, which naturally boosts serotonin levels. (c) SAM-e (or s-adenosylmethionine), which helps regulate more than 200 enzymes in the body.*

- ◆ **Fluoxetine (Prozac®, Symbyax®).** *SSRI for diagnosed depression, bulimia, obsessive-compulsive disorder (OCD), panic disorder, and premenstrual dysphoric disorder (PMDD).*

Effects: anxiety; appetite loss; digestive disturbances (nausea); drowsiness; headaches; insomnia; sexual difficulties (problems with orgasm or erection); skin rash, blistering, hives, itching and peeling.

More possible physical effects, for which medical help is advised: shallow or stopped breathing; cancer risk (especially of the breast, in women); fainting; high fever; uneven heartbeat; rigid muscles; nausea and vomiting; restlessness; seizures; severe headache; sweating; weakness.

More possible psychiatric effects, for which medical help is advised: increased depression, hostility, agitation or impulsivity; confusion; hallucinations; memory loss; suicide.

Withdrawal effects: nausea; nervousness; insomnia.

- ◆ **Fluvoxamine Maleate (Faverin®, Fevarin®, Floxyfral®, Luvox®).** *SSRI for diagnosed depression, anxiety, and obsessive-compulsive disorder.*

Effects: digestive disturbances (constipation, diarrhea, nausea, loss of appetite); dizziness; drowsiness; dry mouth; flu-like symptoms; sexual difficulties (problems with orgasm or erection).

More possible physical effects, for which medical help is advised: cancer risk (especially of the breast, in women); shallow or completely stopped breathing; high fever; headache; uneven heartbeat; muscular rigidity; seizures; slurred speech; sweating.

More possible psychiatric effects, for which medical help is advised: agitation; hallucinations; impulsiveness; irritability; panic attacks; racing thoughts; extreme risk-taking behaviors; suicide.

- ◆ **Escitalopram Oxalate (Lexapro®).** *SSRI for diagnosed anxiety in adults and depression in adults and adolescents over the age of 12 years.*

Effects: digestive disturbances (nausea, constipation, gas, upset stomach); dizziness; drowsiness; insomnia; sexual difficulties; dry mouth; weight changes; tinnitus (ringing in the ears).

More possible physical effects, for which medical help is advised: cancer (especially of the breast, in women); shallow or stopped breathing; cancer; severe digestive disturbances (appetite loss, diarrhea, nausea, vomiting); fainting; high fever; headache; uneven heartbeat; rigid muscles; loss of muscle coordination; sweating; seizures.

More possible psychiatric effects, for which medical help is advised: increased aggression, agitation, depression, hostility, impulsiveness, irritability, and restlessness/hyperactivity; suicide.

- ◆ **Paroxetine Hydrochloride (Paxil®).** *SSRI for diagnosed depression, obsessive-compulsive disorder (OCD), panic attacks, anxiety, post-traumatic stress disorder (PTSD), and premenstrual dysphoric disorder (PMDD).*

Effects: concentration difficulties; digestive disturbances (constipation, mild nausea); dizziness; drowsiness; dry mouth; fatigue; insomnia; impaired libido or impotence; memory loss; nasal irritation; nervousness; restlessness.

More possible physical effects, for which medical help is advised: akathisia (inability to remain still); bone bruising and pain; shallow or stopped breathing; cancer risk (especially of the breast, in women); unusually high fever; fast or irregular heartbeat; muscle weakness or spasms; black stools; seizures, shaking or tremors; skin that's bleeding, bruising or peeling, as well as blisters, rash or hives on skin.

More possible psychiatric effects, for which medical help is advised: agitation; anxiety and panic attacks; confusion; heightened depression; hallucinations; excessive hostility, impulsiveness or irritability; abnormal restlessness/hyperactivity; memory loss; seizures; suicide.

- ◆ **Sertraline Hydrochloride (Zoloft®, Lustral®).** *SSRI for diagnosed depression, obsessive compulsive disorder (OCD), panic disorder, post-traumatic stress disorder (PTSD), social anxiety disorder, and premenstrual dysphoric disorder (PMDD).*

Effects: appetite changes; digestive disturbances (constipation, diarrhea, nausea, stomach pain); dizziness; drowsiness; dry mouth; headache; insomnia; menstrual irregularities (for females); nervousness; sexual difficulties (inability to ejaculate for males, orgasm difficulties for females, impotence, decreased libido); weight loss.

More possible physical effects, for which medical help is advised: akathisia (inability to sit still); breathing difficulties; loss of bladder control; breast tenderness or enlargement, or unusual secretion of milk (in females); cancer risk (especially of the breast, in women); convulsions and tremors; fainting; fast or uneven heartbeats; high fever; muscle cramps, rigidity, stiffness or twitching; stuffy nose, runny nose or nosebleeds; overactive reflexes; skin rash, hives, itching, burning, numbness, prickling, tingling, or red or purple spots; shivering; sweating; swelling (especially of the face, tongue or throat); increased thirst; cloudy urine.

More possible psychiatric effects, for which medical help is advised: agitation; aggressiveness; anxiety; concentration difficulties; increased depression; hallucinations; hostility; impulsiveness; irritability; panic attacks; restlessness; any feelings or actions that seem out of control; vision changes; suicide.

Special warnings: If this drug is discontinued abruptly, withdrawal effects include abdominal cramps, fatigue, flu-like symptoms, and memory impairment.

- ◆ **Other related Antidepressant SSRI Drugs:** *Citalopram Hydrobromide (Celexa®, Cipramil®), Chlorprothixene (Taractan®, Truxal®, Tarnin®), Imipramine Hydrochloride (Tofranil®), Vilazodone (Viibryd®)*

SNRI, or Selective Norepinephrine Reuptake Inhibitor Drugs. *Similar to SSRI drugs, SNRI drugs inhibit the brain's reabsorption of not only serotonin, but also of norepinephrine. Medical literature states that this class of drugs is not used as often as SSRI pharmaceuticals because they have even more side effects than the SSRIs. For diagnosed depression, psychosis, schizophrenia, and bipolar disorder (manic-depression).*

Natural Substitutes: **CAUTION!** *According to Julia Ross, people suffering from bipolar disorder (manic-depression) should not use L-glutamine, L-tyrosine, SAM-e or St. John's Wort, or consume high doses of fish oil, flax oil or chromium, without consulting a skilled psychiatrist or psychopharmacologist. (a) Similar supplements as are given to those who would otherwise be on SSRI Drugs (see first page of this Insert), but heed the CAUTION statement at the beginning of this paragraph. Always consult a holistic physician for customized protocol. (b) Folate, whose deficiency is involved in schizophrenia. Methylfolate—also known as methyltetrahydrofolate or 5-methyltetrahydrofolate—is the most bioavailable form of folate. It's possible that a high percentage of people diagnosed with schizophrenia cannot convert either the folate that naturally exists in foods, or the poisonous synthetic folic acid that's put into many vitamin supplements, into the bioavailable methylfolate. (c) All the B Vitamins.*

- ◆ **Venlafaxine Hydrochloride Extended Release (Effexor ER®).** *SNRI (serotonin and norepinephrine reuptake inhibitor) for diagnosed depression.*

Effects: digestive disturbances (appetite loss, constipation, diarrhea, mild nausea, stomach pain, vomiting); abnormal dreams; dizziness; drowsiness; dry mouth; fatigue; headache; insomnia; nervousness.

More possible physical effects, for which medical help is advised: breathing difficulties; tightness or pains in chest; fast or irregular heartbeat; decreased physical coordination; impaired libido and impotence; peeling skin, or blisters, rash or hives on skin; black or bloody stools; swelling of face, lips, tongue, or throat; tinnitus (ringing in ears).

More possible psychiatric effects, for which medical help is advised: agitation; anxiety and panic attacks; confusion; heightened depression; hallucinations; excessive hostility, impulsiveness or irritability; abnormal restlessness/hyperactivity; memory loss; seizures; suicide.

- ◆ **Mirtazapine (Remeron®).** *SNRI (serotonin and norepinephrine reuptake inhibitor) for diagnosed depression as well as nausea, anxiety, post-traumatic stress disorder (PTSD), and to stimulate appetite.*

Effects: appetite increase; digestive disturbances (nausea); dizziness; sleepiness; weight gain.

More possible physical effects, for which medical help is advised: shallow or completely stopped breathing; loss of coordination; flu-like symptoms; uneven heartbeat; high fever; rigid muscles; sweating; white patches and sores in mouth and on lips.

More possible psychiatric effects, for which medical help is advised: agitation; trouble concentrating; increased depression; hallucinations; memory loss; suicide.

- ◆ **Other related Antidepressant SNRI Drugs:** *Duloxetine (Cymbalta®), Trazodone Hydrochloride (Desyrel®), Venlafaxine (Effexor®)*

- ◆ **Other related Antidepressant Drug:** *Bupropion Hydrochloride (Wellbutrin®), which blocks the reabsorption of the neurotransmitters norepinephrine and dopamine (which, along with adrenaline, are produced by the body using the amino acid tyrosine as one of the main raw ingredients)*

Tranquilizer Drugs (Benzodiazepines). *A tranquilizer (which is often a drug in the benzodiazepine family) binds to receptor sites of the neurotransmitter GABA (gamma-aminobutyric acid). GABA, which is naturally produced by the body, calms and suppresses the activity of nerves. Some people are deficient in GABA. The medical community states that it does not know exactly how benzodiazepine drugs work. Chiefly used for people diagnosed with anxiety, tranquilizers are also used for panic attacks, depression, insomnia, and seizures.*

Natural Substitutes in Supplement Form: *(a) The amino acid GABA, which is a potent mood enhancer. (b) The amino acid taurine, which acts similarly to GABA. (c) The amino acid glycine, which acts similarly to GABA. (c) The herbs hops, lemon balm, passionflower, skullcap, and valerian (among others), which have calming effects on the nervous system. However, the drug manufacturers suggest avoiding these herbs when the person is taking the drug. (d) Melatonin, a natural hormone produced by the pineal gland that regulates sleep, has proven helpful for people who are stopping the Benzodiazepine drugs. (e) The herb kava has been shown, in at least one clinical trial, to be helpful in alleviating withdrawal symptoms from people who are stopping the Benzodiazepine drugs.*

- ◆ **Alprazolam (Xanax®, Niravam®).** *Benzodiazepine for diagnosed anxiety and panic attacks.*

Effects: balance and coordination problems; impaired concentration; digestive disturbances (constipation, diarrhea, nausea, vomiting); dizziness; drowsiness; dry mouth; fatigue; insomnia; irritability; impaired libido or impotence; stuffy nose; nervousness; restlessness; skin rash; slurred speech; swelling in hands and feet; blurred vision.

More possible physical effects, for which medical help is advised: fainting; chest pain, or fast/irregular heartbeat; jaundice; seizures and convulsions; swelling of lips, tongue, throat or face; urinating less or not at all.

More possible psychiatric effects, for which medical help is advised: agitation; depression; hallucinations; hostility; hyperactivity; unusual risk-taking behavior and decreased inhibitions (inability to accurately discern real danger); suicide.

Withdrawal effects: increased anxiety; depression; depersonalization; headache; muscle pain; insomnia; shakiness, tremors and twitching; hypersensitivity to touch.

- ◆ **Lorazepam (Ativan®).** *Benzodiazepine for diagnosed anxiety, panic attacks, depression, insomnia, and alcohol withdrawal.*

Effects: balance and coordination problems; digestive disturbances (constipation, nausea, vomiting); dizziness; drowsiness; dry mouth; chills; bleeding gums; headache; insomnia; impaired libido or impotence; skin rash; weakness; unusual weight gain; blurred vision.

More possible physical effects, for which medical help is advised: shallow or stopped breathing; convulsions and seizures; fainting; fever; fast or irregular heartbeat; itching and swelling of face, tongue and throat; slurred speech; sweating; black stool; unsteady walk; weakness.

More possible psychiatric effects, for which medical help is advised: agitation; confusion; depression; hallucinations; hostility; hyperactivity; memory loss; increased irritability nervousness, restlessness; suicidal thoughts and behavior.

Withdrawal effects: agitation; insomnia; seizures and tremors; sweating; vomiting.

- ◆ **Other Related Tranquilizer Drugs:** *Clobazam (Onfi®), Clorazepate Dipotassium (Gen-XENE®, Tranxene®), Chlordiazepoxide Hydrochloride (Librium®, Limbitrol®, Lipoxide®, Mitran®, Reposans-10®, Sereen®), Clonazepam (Klonopin®), Diazepam (Diastat®, Valium®, Valrelease®, Vazepam®), Estazolam (Prosom®), Fluphenazine (Duraclon®), Flurazepam Hydrochloride (Dalmane®, Durapam®), Halazepam (Paxipam®), Lithium (Eskalith®, only somewhat related but considered a tranquilizer), Mesoridazine (Serentil®), Midazolam (Versed®), Oxazepam (Serax®), Perphenazine (Etrafon®, Trilafon®), Prochlorperazine (Compazine®), Promazine (Anectine®), Quazepam (Doral®), Temazepam (Razepam®, Restoril®, Temaz®), Thioridazine (Mellaril®), Triazolam (Halcion®), Triflupromazine (Robinul®)*

Stimulant Drugs (Methylphenidates, Amphetamines, Dextroamphetamines, and Methamphetamines). *Stimulants affect the central nervous system and brain by increasing the levels of the neurotransmitter dopamine. They also increase heart rate and blood pressure, and suppress appetite. The medical community says it doesn't know how amphetamine drugs calm hyperactive people. Used for children and adults diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) and narcolepsy (falling asleep easily at any time, due to the brain's failure to regulate normal sleep-wake cycles). Off-label, used for depression, obesity, and nasal congestion.*
Natural Substitutes in Supplement Form: *Amino acid L-tyrosine, with L-glutamine and GABA; calcium and magnesium; Vitamin B6 (administered with B Complex); sometimes bacopa (herb).*

- ◆ **Methylphenidate Hydrochloride (Ritalin®).** *Stimulant chemically related to amphetamines. Widely used for diagnosed Attention Deficit Hyperactivity Disorder (ADHD) in children and adults, as well as narcolepsy (inability to remain awake during the day due to a malfunction in the brain).*

Effects: addiction, often to cocaine; appetite loss; shortness of breath; confusion; convulsions; chest pain; depersonalization (feelings that the person and their environment is not real); digestive disturbances (abdominal or stomach pain, decreased appetite, nausea); dizziness; fast or irregular heartbeat; fever; headache; insomnia; joint pain; memory loss; muscle cramps; stuffy nose; nervousness, agitation, anxiety and irritability; seizures in those with a history of seizures; skin flaking and scaling, hives, rash, redness, or unusual warmth; vocal or physical tics (uncontrolled, repeated body movements); blurred vision.

More possible physical effects, for which medical help is advised: cancer risk; painful, constant penile erection lasting more than four hours (which, if not treated immediately, can lead to scarring and permanent erectile dysfunction in the male—effects on females not documented); high blood pressure; hyperthyroidism (overactive thyroid); overactive reflexes; extreme restlessness; tremors; sweating; swelling of hands, feet or ankles; urinary tract and other infections; vomiting; reduced blood flow to the brain, which can lead to stroke.

More possible psychiatric effects, for which medical help is advised: aggression; depression; delusions; hallucinations; panic; paranoia and suspicion; psychosis that appears to be schizophrenia; severe psychological dependence on the drug itself; suicide.

Other data: Often, children given this drug experience slowed growth, as it can disrupt the development of brain cells in the hippocampus of the brain—the region responsible for memory, spatial navigation, and appropriate behaviors. Severe dependence on this drug is probable (similar in its effects to cocaine), which means that it should not be withdrawn abruptly.

- ◆ **Other Methylphenidate Drugs:** *Concerta®, Daytrana®, Focalin®, Metadate®, Methylin®, Quillivant®*

- ◆ **Amphetamine plus Dextroamphetamine Salts (Adderall®).** *Stimulant used for diagnosed Attention Deficit Hyperactivity Disorder (ADHA) in children and adults, and narcolepsy.*

Effects: agitation, anxiety and fear; unusual excitability and irritability; high blood pressure; digestive disturbances (constipation, diarrhea, stomach pain, nausea, vomiting); dizziness; dry mouth; hair loss; headache; increased heart rate and heart palpitations; insomnia; impaired libido and impotence; nervousness; numbness; restlessness; teeth grinding; tremor; blurred vision; weakness; weight loss.

More possible physical effects, for which medical help is advised: breathing or swallowing difficulties; cardiac arrest; emotional extremes (whether happy or sad); motor tics and muscle twitches; pain when urinating; seizures; stroke.

More possible psychiatric effects, for which medical help is advised: addiction; aggressive and hostile behavior; delusions; depression; hallucinations; severe mood swings (bipolar disorder); psychosis.

Other data: Adderall® is habit forming. Chronic use may lead to dependence or sudden death.

- ◆ **Other Amphetamine Drugs:** *Desoxyn®, DestroStat®, Dexedrine®, Lisdexamfetamine (Vyvanse®), ProCentra®*

Antipsychotic or Neuroleptic Drugs (Phenothazines). *Used for diagnosed psychosis, schizophrenia, bipolar disorder (the manic aspect of manic-depression), occasionally depression, and Tourette's syndrome (excessive movements and verbal tics). Doctors believe that these drugs tranquilize the brain by blocking transmissions that utilize the energizing neurotransmitter dopamine. The drugs bind to the dopamine receptor site and usually depress the nervous system; but sometimes they cause restlessness and akathisia (the inability to remain still). Phenothazine was first introduced by DuPont in 1935 as an insecticide. Pharmacologically, Phenothazine is further divided into three sub-groups; but for the purposes of this Insert all types are grouped together.*

Natural Substitutes: *Foods high in Omega 3 fatty acids, such as wild salmon, cod liver oil and grass fed beef). Specialized supplementation: includes amino acids glycine and sarcosine; zinc; magnesium; and antioxidants (Vitamins C and E, and Alpha Lipoic Acid), which help repair damage caused by long-term use of neuroleptic drugs. Holistic doctors also remove gluten from the diet.*

- ◆ **Chlorpromazine Hydrochloride (Thorazine®, Largactil®, Megaphen®, Promapar®).** *Used to treat diagnosed schizophrenia, psychotic disorders, the manic phase of bipolar disorder, manic-depression, and perceived severe behavior problems in children age 1 through 12.*

Effects: low or irregular blood pressure; breast swelling or discharge; digestive disturbances (abdominal or stomach pain, constipation, nausea and vomiting); dizziness; drowsiness; dry mouth; headache; heart palpitations; nasal congestion; neck spasms; sexual difficulties (problems with orgasm or erection); blurred vision.

More possible physical effects, for which medical help is advised: balance problems; breathing difficulties; high fever; insomnia; jaundice (yellowing of the skin or eyes); joint pain; mouth sores and swollen gums; muscle twitching and other uncontrolled movements; muscle rigidity; skin bleeding or bruising; difficulty swallowing; tremors and fainting; weight gain.

More possible psychiatric effects, for which medical help is advised: agitation and restlessness; confusion; unusual thoughts or behaviors; increased deaths in elderly persons diagnosed with dementia-related psychosis.

- ◆ **Haloperidol (Haldol®).** *Used to treat diagnosed schizophrenia, psychotic disorders and the manic aspect of manic-depressive disorder, to control perceived behavior problems in children, and to manage excessive motor movements and verbal tics (as in Tourette's syndrome). This drug is about fifty times stronger than Chlorpromazine (see above). Haloperidol is in its own group but also contains Phenothazine, so is included here.*

Effects: anxiety and restlessness; breast enlargement; confusion; digestive disturbances (constipation, diarrhea, nausea and vomiting); drowsiness; dry mouth; headache; insomnia; rigid muscles or uncontrolled movements and twitching of limbs and face; sexual difficulties; speech problems; difficulty urinating; blurred vision.

More possible physical effects, for which medical help is advised: balance problems, dizziness or sensation of spinning; breathing difficulties; cancer risk; chest pain; cough with yellow or green mucus; fainting; swollen gums or mouth sores; erratic or pounding heartbeat; high fever; insomnia; jaundice (yellowing in eyes or skin); joint pain; mouth sores and swollen gums; muscle twitching and other uncontrolled movements; muscle rigidity; skin bleeding, bruising, itching or rash; neck or throat spasms; difficulty swallowing; tremors, fainting and seizures; weight gain. Unexpected deaths.

More possible psychiatric effects, for which medical help is advised: agitation; hallucinations.

- ◆ **Other Phenothazine and Related Drugs:** *Acetophenazine (Tindal®), Amitriptyline Hydrochloride (Estrafon®), Aripiprazole (Abilify®), Clozapine (Clopine®, Clozari®, Denzapine®, FazaClo®, Synthron®, Versacloz®, Zaponex®), Fluphenazine Hydrochloride (Permitil®, Prolixin®), Loxapine (Loxitane®), Mesoridazine (Serentil®), Olanzapine (Lanzek®, Zypadhera®, Zyprexa®), Perphenazine Hydrochloride (Trilafon®), Prochlorperazine (Compazine®, Compro®, Procomp®), Promazine (Sparine), Quetiapine (Seroquel®), Risperidone (Risperdal®), Thioridazine Hydrochloride (Mellaril®), Trifluoperazine Hydrochloride (Stelazine®), Ziprasidone (Geodon®)*

- ◆ In June 2004, 13-year-old Alex Kim from Suwanee, Georgia, hanged himself shortly after his Lexapro[®] prescription was doubled.
- ◆ In March 2005, in Red Lake, Minnesota, 16-year-old Jeff Weise killed his grandfather and his grandfather's companion, and later, at the high school on Red Lake Indian Reservation, shot at fellow students and some adults, several of whom died. Jeff then killed himself. The boy had been prescribed 60 mg/day of Prozac[®]—three times the average starting dose for adults!
- ◆ In October 2007, at SuccessTech alternative high school in Cleveland, Ohio, 14-year-old Asa Coon shot and wounded four people before taking his own life. Court records revealed that Coon was taking Trazodone[®].
- ◆ In September 2008, in western Finland, Matti Saari, a 22-year-old student, shot and killed ten people, and wounded another, before killing himself. The Finnish Ministry's report stated that Saari was taking an SSRI drug as well as a benzodiazapine tranquilizer (a category that includes Valium[®] and Xanax[®]).

Breathing is a pulsation in which expansion and contraction of the body alternate. The simplest way to block the expansive or contractive movement of the body in emotional expression is to suspend the main pulsation in the organism: to hold the breath. Not that this is a conscious process. The jaw clamps shut, or the muscles of chest and abdomen spontaneously tighten as anxiety is felt.

The word *anxiety*, from the Latin word for "narrow," expresses this experience of tightness of the muscles of jaw, throat, chest, and abdomen. The channel of breathing is narrowed. Anxiety in its most intense form is fear—a total contraction of the organism. But normally anxiety is a partial contraction against an impending movement of emotion.

When the expansive emotions of joy or rage are blocked, either chronically or in a temporary emergency, the breathing tends to block in a deflated position, with the body area contracted. A depressed person, whose organism resists either joy or rage, tends to be stuck in an attitude of deflation. The body is slumped, hunched, folded forward. The attitude seems to say "I've given up."

When the contractive emotions of grief or fear are blocked, the breathing tends to be held in an inflated position, the chest puffed out. The attitude may seem defiant: "I won't give in."

—Sean Haldane
Emotional First Aid, 1984

- ◆ In 2010, in Huntsville, Alabama, 15-year-old Hammad Memon shot and killed a fellow school student. He had been diagnosed with ADHD and depression, and was taking Zoloft[®] and other drugs.
- ◆ In October 2013, in Sparks, Nevada, 12-year-old Jose Reyes opened fire at Sparks Middle School, killing a teacher and wounding two students before committing suicide. He was taking fluoxetine (a generic version of Prozac[®]), prescribed by a psychiatrist, at the time.
- ◆ In April 2014, in Milford, Connecticut, 16-year-old Chris Plaskon stabbed a friend to death at Jonathan Law High School after she declined his invitation to the prom. At the trial, Chris's attorney stated that his client had been diagnosed with ADHD and was taking prescribed medications for psychosis and anxiety. The boy said that demons had told him to kill the girl.

Not all drug-related murders, attempted murders, and suicides have been committed by children or teenagers. Young adults in their 20s, and older adults with children, have also been affected by these drugs. For example:

- ◆ In January 1999, in Grand Forks, North Dakota, Ron Ehlis killed his 5-week-old daughter ten days after he started taking Adderall[®]. As a child, Ron had been diagnosed with ADD and was prescribed Ritalin[®]. When he was 26 years old, a psychiatrist he consulted (because he was having a hard time with his college studies) prescribed Adderall[®], but did not perform any tests first. Following the doctor's instructions, Ehlis doubled the dose after a few days, after which he began suffering from hallucinations and delusions. He shot his baby girl, believing that he was following orders from God. Then he shot himself in the stomach. Ron was charged with murder, but the charges were later dismissed after several doctors testified that he was suffering from a psychotic disorder induced by amphetamines. The mother of the child he had killed testified that Ron had not been behaving normally from the moment he started taking the Adderall[®].
- ◆ In September 1999, in Spokane, Washington, Sharon Curry stabbed and killed her 8-year-old daughter before stabbing herself. On Adderall[®] at the time, Curry was found not guilty of all charges. Doctors for both the defense and the state agreed that Sharon suffered from a drug-induced insanity that caused such an aberrant mental state, she was unable to distinguish between right and wrong. Sharon sued her doctor for prescribing an excessive dose of Adderall[®], which had caused her to kill her daughter. The lawsuit was settled out of court, its details withheld from the public.

- ◆ In March 2000, in Scottsdale, Arizona, Dawn Branson was driving with her son in the car when she suffered a psychotic episode. Court documents stated that Dawn heard a voice saying: “Let go of the steering wheel and gas. God will drive the car. Don’t you trust him?”¹²¹ So Branson released the wheel, resulting in a car accident that caused her serious injuries and killed her son. Dawn Branson was taking (prescribed) Adderall® at the time. Prior to taking the drug, she’d never had a psychotic episode. After she stopped taking the drug, her psychotic episodes ceased.
- ◆ In February 2008, in a Northern Illinois University auditorium in DeKalb, Illinois, 27-year-old Steven Kazmierczak shot and killed five people, wounded 21 others, and then killed himself. According to his girlfriend, he had recently been taking Prozac®, Xanax® and Ambien®. Post-mortem toxicology results revealed trace amounts of Xanax® in his system.
- ◆ In June 2014, in Seattle, Washington, 26-year-old Aaron Ybarra opened fire at Seattle Pacific University, killing one student and wounding two others. He had reported, in 2012, that his psychiatrist had prescribed Prozac® and Risperdal®.
- ◆ In November 2014, in Tallahassee, Florida, 31-year-old Myron May opened fire in the library of Florida State University. He wounded three people before he was shot and killed by police. After the incident, May’s friends stated that he had been prescribed Wellbutrin® and Vyvanse®. Around the same time, they had found Seroquel® among his prescriptions as well. ABC Action News also reported a prescription for Hydroxyzine® (an anti-anxiety drug) in his apartment. Two months before the murders, May had been admitted to a local mental health center, Mesilla Valley Hospital.

So far, all of the murders summarized here happened on the ground. A later event—which to many, felt even more shocking because of the venue and the number of people killed—occurred in a plane en route from Spain to Germany in March 2015. The co-pilot, 27-year-old Andreas Lubitz, deliberately crashed the plane once it was in mid-air. Everyone on board (150 people), including Lubitz, was killed. Diagnosed with depression, anxiety and panic attacks, Lubitz had been taking Lorazepam® and other medications. With rare exceptions, the US Federal Aviation Administration does not allow pilots to use mind-altering drugs (such as Lorazepam®) that interfere with the ability to operate vehicles on the road or in the air.

The Pharmacology of Psychotropic Drugs and the Battle for Disclosure

A Brief Summary of the Brain

It can be very difficult to believe that people taking prescription psychotropic drugs can become so deranged, so different from how they would normally behave, that they would kill other people. The apparent formula of cause and effect does seem simplistic: child takes drug and murders, or child takes drug and commits suicide, or both. How could mind-altering drugs “alter the mind” so much that they turn someone into a criminal?

The Insert on page 56, “Effects of Some Popular Psychotropic Drugs,” summarizes the effects on mind and body from different types of mind-altering drugs. But in order to understand *why* they exert these effects, we need to learn first how brain chemicals work. Just a brief summary will suffice.

The body contains four classes of chemical messengers called *neurotransmitters*. *Neuro* designates “neuron,” which is a nerve cell. And *transmitter* means just that: the transportation, or transmission, of a biochemical from cell to cell. Neurotransmitters dictate how we conduct ourselves in the world and they cover an enormous range of functions: mood, mental acuity, perception, sensation, temperature control, motor coordination, digestion, sleep, blood pressure, aggression levels, and more. The Insert on page 65, “Functions and Effects of Neurotransmitters,” summarizes the four basic neurotransmitters (or neurotransmitter groups) and their impact on us if their levels are adequate or unbalanced on the low side.

Neurotransmitters at higher than average levels are not discussed, but you can get a sense of what those effects might be by exaggerating the benefits. For instance, dopamine and other catecholamines are *endogenous*—that is, naturally produced by the body—amphetamines. If, at normal levels, the catecholamine group promotes energy and focus, excessively high levels could induce someone to be excessively energized and hyper-focused or obsessive, resulting in compulsive, risk-taking behaviors.

Our neurochemicals are interconnected with the world around us. Just as our neurochemical levels affect how we feel, perceive and respond to our environment, the environment affects our neurotransmitter levels. There will always be fluctuations in neurotransmitter levels, depending on diet, amounts of exercise and sleep, relationship satisfaction, work stressors, and so on; after all, humans aren’t static machines. Sometimes, though, the amounts of neurochemicals being secreted are adequate but the timing is off. For example, there might be a shortage of catecholamines in the morning, which is

when greater amounts are needed for activity; and there might be a surge in these biochemicals at night, which is when the body should be producing less in order to relax for sleep. Some people naturally possess greater or lesser levels than others, but there's a preferred range, and ideally our levels should fall within that range. When the levels do not, our quality of life suffers, often dramatically.

The neurotransmitter I want to discuss in some depth is serotonin, because so many murders are perpetrated by people who are taking the class of drugs called SSRIs (Selective Serotonin Reuptake Inhibitors). Once you understand how SSRIs affect the brain, you can apply these general principles to other types of psychotropic drugs.

Serotonin is a very important neurochemical. It helps us feel mellow and calmer, decreases pain, and acts as an antidepressant and sleep aid. There is no "typical" serotonin level (which is determined by a blood test) because these levels are constantly fluctuating, due to diet and other factors. Serotonin can be made only by our bodies. It's created from the amino acid tryptophan, along with certain vitamins and minerals.

Like other neurotransmitters, serotonin delivers its biochemical messages by traveling from one neuron to another. Once it's released—that is, *fired*—by a nerve cell, receptors on adjacent nerve cells are activated. The serotonin is then reabsorbed back into the neuron via a process called *reuptake*. The body reactivates the serotonin transmitter for further use, the serotonin fires again, and this cycle repeats innumerable times.

This naturally occurring cycle gets interrupted once an SSRI drug is in the system. The drug blocks the receptor sites, there is no reuptake or reabsorption of serotonin, and no serotonin can be discharged for further use. The rationale for deliberately aborting this function is that with less (or no) reuptake of serotonin back into the nerve cells, more serotonin is available to the brain. But this reasoning is flawed. Once the receptor sites are no longer used, the body deactivates them. Why keep an establishment open for business if there are no customers?

Plenty of research in mainstream medical sources confirms that if this downward spiral continues, most of the receptor sites stop working. One study, published in 2002 in *The Journal of Neuroscience*, showed that it took only fifteen days for an SSRI drug to deactivate 80% of the body's serotonin receptor sites.¹²² The medical community even has a term for the loss of function of serotonin receptor sites: *downregulation*. But this is a misleading term. It doesn't even begin to adequately describe what's really happening: *the desensitization and eventual deterioration of serotonin receptor sites*. People on SSRI antidepressants not only gradually lose their

serotonin receptor site function, but they also lose the benefits that serotonin provides.

This is why there are so many seemingly disparate "side" effects of SSRI drugs. Perhaps if people understood that these drugs cause the body to lose its ability to function normally, they might not choose to take them.

Using a dangerous drug to try to trick the body into "finding" more serotonin than is actually present is a ruse that ultimately backfires. It makes far more sense to provide the body with what it needs so that it can manufacture more of the neurotransmitter. The amino acid tryptophan (or a molecular variant, 5-hydroxy-L-tryptophan) is the only substance that can create serotonin. Foods that contain lots of tryptophan include free range turkey, wild fish, grass fed beef, whey, pastured eggs, and nuts. A small amount of complex carbohydrate eaten with the protein helps clear all of the amino acids except tryptophan from the bloodstream. This allows tryptophan to cross the blood brain barrier, unimpeded, and form serotonin. Some of the best carbohydrates for this task include bananas, sour cherries, and buckwheat. One food that contains both tryptophan and carbohydrates—along with scores of other phytochemicals that the brain loves—is cacao. Not surprisingly, many depressed people feel better after eating just a few ounces of chocolate.

It has taken many deaths to help make the public even start being aware of the dangers of psychotropic drugs. It's important to know that emotional and mental issues can be managed with natural methods. However, balancing brain chemicals is complex, and requires knowledge, skill, experience, and suitable raw materials. Fortunately, there are dedicated natural health professionals who can help.

Uncovering the Data

Today, anyone with an Internet connection can obtain information about "side" effects of psychotropic and other drugs—along with *contraindications*, or medical reasons why people with certain conditions shouldn't take them at all. Although the websites refer consumers to their doctors for more data, at least some of the dangers are revealed (despite the manufacturers' assertions that many of the reported negative reactions are "rare"). Note that all of the information about the effects of psychotropic drugs, cited in the lengthy Insert on the previous pages, was compiled from medical websites.

While ready access to such information might seem routine to us today, the average consumer didn't always have it. The pharmaceutical companies weren't even this transparent. It took decades of radically altered behavior, psychological breakdowns, murders, suicides, ruined lives and lawsuits, before consumers were granted access to

FUNCTIONS AND EFFECTS OF NEUROTRANSMITTERS			
Neurotransmitter	Indicators of Proper Levels	Indicators of Abnormal Levels	Substances that Help Produce Neurotransmitter
<i>Catecholamines</i> This group includes dopamine (some of whose pathways are in the frontal lobe of the brain), as well as two related biochemicals made from dopamine: norepinephrine (sometimes called noradrenaline) and adrenaline (sometimes called epinephrine). The two related biochemicals are produced and regulated by the adrenal glands.	Energized, alert, focused, purposeful, interested in environment. One is able to plan and set goals. Dopamine is a natural, gentle amphetamine that monitors metabolism, controls blood pressure and digestion, and generates electricity for voluntary movements.	Apathy, distractability, indecision, depression, fatigue, hopelessness, obesity, sleeplessness, addictiveness, loss of muscular control. Cravings for stimulants (such as caffeine and "recreational" drugs) and sugar. Deficiency personality: loner, procrastinator.	Amino acids L-tyrosine and D-phenylalanine, abundant in animal proteins. Taken as a powder by mouth with L-glutamine powder (another amino acid), L-tyrosine stabilizes moods. D-phenylalanine creates endorphins that eliminate pain and addictions. Don't take these energizing supplements before bed.
<i>Acetylcholine</i> A lubricant and neuromodulator produced in the parietal lobe or "thought center" of the brain, it keeps internal structures moist and adjusts how the brain processes information. Acetylcholine maintains the signaling capacity and structural integrity of cell membranes. It also builds myelin, the insulation around neurons that prevents an electrical signal from dissipating as it passes through a neuron.	Positive, confident, easygoing, flexible and creative, with good problem solving ability, enhanced verbal processing, fast reactions, and strong focus. This neurotransmitter helps maintain short-term memory, enhances communication between brain cells, improves digestion, and maintains steady heartbeat.	Negative, obsessive, worried, irritable, quarrelsome, memory loss, language confusion. Sleeplessness, headaches, decreased mental energy ("brain fog"), learning and cognitive disabilities (senile dementia, Alzheimer's). Deficiency personality: perfectionist, eccentric.	Foods rich in choline build acetylcholine: egg yolks, organ meats such as liver, raw dairy, broccoli, Brussels sprouts, quinoa, amaranth, and raw cacao. Available as a supplement (in the form of phosphatidylserine), acetylcholine can be taken with dimethylaminoethanol (DMAE), to penetrate cell membranes more easily.
<i>GABA, gamma-aminobutyric acid</i> This amino acid is made by brain cells from the amino acid precursor glutamate. Glutamate excites nerve impulses, while GABA prevents them from firing too easily. A natural tranquilizer, GABA produces endorphins (natural painkillers made by the body). GABA is active in the brain's temporal lobe, which governs memory and language.	Focused, calm in mind and spirit, with easygoing optimism and a general sense of well-being. GABA stabilizes blood pressure, relieves pain, promotes the burning of fat, and helps build muscle.	Addictions, anxiety, panic attacks, heart palpitations, high blood pressure, cognitive impairment, headaches, diminished libido, seizures (including epilepsy), chronic pain, premenstrual issues. Deficiency personality: drama queen, unstable.	GABA is available as a nutritional supplement. Taken before bedtime, it helps with sleep. Tryptophan enhances the activity of GABA, as do the herbs valerian root and kava kava.
<i>Serotonin</i> Sometimes associated with the occipital lobes of the brain, but over 80% of serotonin is produced in the gut. It maintains mood, balance, regulates appetite and digestion, promotes sleep, and enhances memory. Its precursor, the amino acid tryptophan which is present only in protein foods, must be accompanied by some carbohydrate to reach the brain.	Peaceful demeanor, centeredness, enjoyment of life. Also the ability to fall and stay asleep, reasonable tolerance to pain, appetite and body temperature regulation, and normal libido. Serotonin helps us feel emotionally and physically nourished and satisfied.	Depression, irritability, obsessiveness, anxiety, low self-esteem. Also body pain, insomnia, eating disorders, hormone imbalances. Cravings for sugar, carbs, caffeine and other stimulants. Deficiency or excess personality: pointless rebellion, self-absorbed.	Tryptophan and its chemical relative, 5-hydroxy-L-tryptophan, are precursors of serotonin. Take it afternoon and evening, but only long enough to build up serotonin levels. Moderate exercise and exposure to light also help build serotonin levels.

what they should have been given all along: the knowledge of what exactly their children, and possibly they, were taking. Despite diligent efforts by the pharmaceutical cartel to hide, obscure, trivialize, omit, or outright falsify data about these drugs, concerned parents, doctors and journalists worked just as diligently to uncover the truth. What's astounding is not only that the drugs often exacerbate the very symptoms they're supposed to be alleviating—but Big Pharma knew the truth about these medications for years, and deliberately withheld the data.

One of the first articles on psychiatric drugs received substantial publicity after it was released in the late 1990s: "School Violence: The Psychiatric Drugs Connection." The author, Pulitzer Prize-nominated investigative reporter Jon Rappoport, wrote that the problems caused by Prozac® and other prescription mind-altering drugs was much more widespread than the *PDR*® and mainstream media were willing to disclose. He pointed out that a disproportionately large percentage of teenagers were on some form of antidepressant when their shocking, senseless murder rampages made national news.

Although drug-induced killings had occurred at least as early as 1986 (and probably before), the heavily publicized 1998 Oregon murders by Kinkel—and then the 1999 massacre at Columbine High School in Colorado by Harris and Klebold—catalyzed serious public investigation into the relationship between psychotropic drugs and subsequent murders. Heated public discussions were already being held about the need for more caring parental involvement in the children's lives, for school personnel to report aberrant student behavior, and for more thorough background checks with firearm sales. Also, the public was increasingly demanding that the entertainment industry refrain from pushing murder and violence as acceptable forms of fun. These points were important, and of course needed to be addressed. But the one critical factor that was conspicuously absent in reports from all but the most obscure (independent) media was drug treatment history. In these and other similar acts of violence, *virtually all of the teenagers were on legally prescribed drugs*—Prozac®, Zoloft®, Paxil® and/or Luvox®—used to treat depression and obsessive-compulsive disorder. It took several years for Eric Harris's autopsy report to become public. Apparently, the low "therapeutic" levels of the antidepressant Luvox® in his system at the time of death were not therapeutic at all. And Jeff Weise's antidepressant prescription had just been increased significantly. (See pages 53–55, and 62–63, for summaries of specific events.)

Rappoport quoted psychiatrist Joseph Tarantolo, president of the Washington chapter of the American Society of Psychoanalytic Physicians:

[The drugs] relieve the patient of feeling. He becomes less empathic, as in "I don't care as much," which means, "It's easier for me to harm you." If a doctor treats someone who needs a great deal of strength just to think straight and gives him one of these drugs, that could push him over the edge into violent behavior.¹²³

Psychiatrist Peter Breggin, author of *Toxic Psychiatry*, *Talking Back to Prozac*® and *Talking Back to Ritalin*®, told Rappoport:

With Luvox®, there is some evidence of a 4% rate for mania in adolescents. Mania, for certain individuals, could be a component in grandiose plans to destroy large numbers of other people. Mania can go over the hill to psychosis. . . . I have no doubt that Prozac® can cause or contribute to violence and suicide. I've seen many cases. In a recent clinical trial, 6% of the children became psychotic on Prozac®. And manic psychosis can lead to violence.¹²⁴

Breggin's longstanding reputation of being antagonistic to the pharmaceutical industry made it easy for his critics to dismiss him. But it was harder to ignore negative input from someone who worked for the manufacturer of the drug. In 1994 David Healy, consultant for Eli Lilly (the pharmaceutical conglomerate that produces Prozac®), conducted a study proving that antidepressants can induce suicidal tendencies. A 1995 issue of the *British Medical Journal* contained data linking Prozac® to increased suicide risk.¹²⁵ By 1996, the FDA had received 35,000 complaints about Prozac® alone. A review-study called "Antidepressants for Children" in a 1996 *Journal of Nervous and Mental Diseases* concluded that "despite unanimous literature of double-blind studies indicating that antidepressants are no more effective than placebos in treating depression in children and adolescents, such medications continue to be in wide use."¹²⁶

Rappoport cited numerous studies appearing in respected professional publications that are not routinely read by the general public. The February 1990 *American Journal of Psychiatry* chronicled six depressed people, not known to be suicidal, who developed "intense, violent, suicidal preoccupations after 2 to 7 weeks of fluoxetine [Prozac®] treatment." The obsessions with suicide lasted from 3 days to 3 months after the medication was withdrawn. According to the study, 3.5% of Prozac® users were at risk.¹²⁷ In "Emergence of self-destructive phenomena in children and adolescents during fluoxetine treatment," the authors reported "self-destructive phenomena in 14% percent (6 out of 42) of children and

adolescents (10 to 17 years old) who had treatment with fluoxetine (Prozac®) for obsessive-compulsive disorder.”¹²⁸ In yet another article, which appeared in the July 1991 *Journal of Child and Adolescent Psychiatry*, a 13-year-old boy was described as “full of energy,” “hyperactive,” and “clown-like”; but after taking Prozac®, he exhibited sudden and violent acts that were “totally unlike him.” And a 1991 issue of the *Journal of the American Academy of Child and Adolescent Psychiatry* reported that a depressed 10-year-old boy, after being treated with Prozac®, became “hyperactive, agitated, [and] . . . irritable,” making a “somewhat grandiose assessment of his own abilities.”¹²⁹ He also phoned a stranger and threatened to kill him. After the Prozac® was stopped, the symptoms disappeared.

Ritalin®—typically prescribed for attention deficit disorder (ADD), also known as attention deficit hyperactivity disorder (ADHD)—is also implicated in murderous rampages. Thanks to Rappoport’s research two decades ago, readers were also made aware of an extensive literature review published in the July 1986 *International Journal of the Addictions*. Titled “An Outline of Hazardous Side Effects of Ritalin® (Methylphenidate),”¹³⁰ it contained indexed journal articles pertaining to over 100 common symptoms. Toxic effects include aggressiveness, akathisia (the inability to remain seated, with the tendency to be in constant, often repetitive motion), brain damage, convulsions, paranoid delusions, insomnia, psychosis, terror, screaming, visual and auditory hallucinations, pathological thought processes, extreme withdrawal, and decreased REM sleep. REM is an acronym for “rapid eye movement.” These eye movements, made through closed lids, indicate dreaming. They occur an average of two hours a night as a normal part of the sleep cycle. A decrease in the amount of REM sleep can be highly detrimental to psychological and physiological health. When REM sleep is continually interrupted over long periods of time, signs of sleep disturbance occur, including the inability to mentally focus, lack of motor coordination, and emotional volatility. This sounds very like the psychotic and hallucinatory reactions described as “side” effects of Ritalin®.

Laypeople who don’t read “alternative” literature or do research on the Internet have limited access to data. What they believe is what the medical establishment wants them to believe—what their doctors tell them. Consumers are usually not permitted to see the handouts given to medical professionals. Most have never even seen a copy of the *PDR*®—an expensive, huge volume available only to

doctors, and often not found in libraries (unless an older volume is contributed when the donor obtains a new one). People tend to ignore the possibility that they themselves might (and probably will) experience toxic drug effects. As of this writing, laws in the US and New Zealand require pharmaceutical advertisements to be accompanied by long lists of the “side” effects of drugs. However, there’s discussion of eliminating this requirement. There are many factors that have made it hard for the public to believe the extent of a worldwide drug industry cover-up.

Physicians are not immune to the effects of selective information, either. Even though the *PDR*® is a source of valuable information, it’s not as thorough in its description of “side” effects of drugs as the in-depth articles published

in professional journals. Literature issued by the drug companies is likewise limited. For instance, as reported by two medical researchers, “Eli Lilly states in Prozac’s® information sheet that the drug can cause akathisia [restlessness, pacing, and anxiety]. However, the company has said that less than 1% of Prozac® users experience this side

effect, while a report in the *Journal of Clinical Psychiatry* has estimated that the actual share of Prozac® users who suffer from akathisia is 10% to 25%.”¹³¹ Unless doctors specifically take time to extensively search the medical literature for more comprehensive information, they are limited to drug company literature and *PDR*® summaries of edited data—unless, of course, they are being compensated in some way by the drug companies, in which case they’ll promote a drug even if it’s especially harmful.

The problem of lies and omissions is compounded by the existence of organizations that appear to serve the public but have ties to the drug industry. Consider, for example, the case of Ritalin®. Years ago, the nonprofit ADD support organization, CHADD (Children and Adults with ADD/HD), received almost one million dollars from the manufacturer of Ritalin®. Not coincidentally, at that time CHADD recommended Ritalin® for children with so-called attention deficit disorder. On its website today, it states that it derives approximately 27% of its total revenue from pharmaceutical grants. Similarly, when Marc Czarka was director of pharmaceutical affairs for Eli Lilly Benelux, he admitted that the company contributed money to the American Psychiatric Association.

Despite industry attempts to conceal the effects of psychotropic drugs, some media mentioned the emotional imbalances and violent Prozac®-induced behavior in the

Modern medicine is a negation of health. It isn’t organised to serve human health, but only to serve itself as an institution. It makes more people sick than it heals.

—Ivan Illich
author, *Medical Nemesis*,
Austrian philosopher, priest,
and social critic (1926–2002)

teenagers involved in the Colorado shootings. Just two major newspaper headlines of February 7, 1991, were “Murder Trials Introduce Prozac® Defense” in the *Wall Street Journal*¹³², and “Suicidal Behavior Tied Again To Drug: Does Antidepressant Prompt Violence?” in *The New York Times*.¹³³ Coincidentally on that same day, in a letter to the editor in the *New England Journal of Medicine*,¹³⁴ three medical doctors expressed great concern about the effects of fluoxetine drugs. Citing accounts of their own patients as well as studies from other journals, they emphasized that fluoxetine causes suicidal thoughts and behaviors in people who were not previously suicidal.

Two decades ago, Rappoport wrote that mainstream media was “afraid to go after psychiatric drugs as a cause of violent crime,” partly because they know that “expert attack-dogs are waiting in the wings, funded by big-time pharmaceutical companies. There are doctors and researchers who have seen a dark truth about these drugs in the journals, but are afraid to stand up and speak out. After all, the medical culture punishes no one as severely as its own defectors.”¹³⁵

In October 2004, the FDA finally ordered pharmaceutical companies to include, on the labels of antidepressants, a warning that the drugs could cause suicidal thinking and behavior, along with other unusual behavioral changes in children and teenagers. Later, as even more Public Health Advisory notices were posted on the FDA website, the warnings increased in scope to include young adults, more harmful effects, and more drugs. Nevertheless, many more tragedies involving mind-altering drugs have occurred since Rappoport’s article was first published, and mainstream media is still married to Big Pharma.

In the past several years, many new studies have revealed other types of damage caused by antidepressants—notably, damage to children whose mothers take the drugs while pregnant. Assuming that the mothers don’t miscarry first, the children have a much greater chance of being born prematurely, of suffering from birth defects (including heart abnormalities), of becoming autistic, or of developing diabetes and becoming obese as youngsters. These newer studies have also found that certain antidepressants make people more susceptible to severe infections from *Clostridium difficile* and other pathogens. The drugs destroy many of the beneficial flora in the gut, thus making the immune response weaker.

Incredibly, the use of psychoactive drugs is increasing.

Lawsuits and the Right To Refuse Drugs

Parents of children who became delusional (and then killers) from taking psychotropic medications, know the heartbreak of seeing a formerly “good” child (albeit with problems) become an amoral monster. Fortunately, not all parents believe that doctors are omnipotent.

Colorado was one of the first states in the US to take a firm stand against the drugging of children. On November 11, 1999, the Colorado State Board of Education adopted a resolution to “encourage school personnel to use proven academic and/or classroom management solutions to resolve behavior, attention, and learning difficulties” because there exist sufficient “documented incidents of highly negative consequences in which psychiatric prescription drugs have been utilized for what are essentially problems of discipline.”¹³⁶

Fred A. Baughman, Jr., a medical doctor who was instrumental in getting the resolution passed, pointed out that the US has the highest number of drugged children in the world. He referred to an article claiming that ADHD was real, and that unless this “disease” was treated with addictive drugs (including Dexedrine®, Ritalin®, and Adderall®), adolescents and adults would later be susceptible to substance abuse. In rebuttal, he emphasized that there was no evidence to support the claim that ADHD is a genuine illness (more

Man . . . sacrifices his health in order to make money. Then he sacrifices money to recuperate his health. And then he is so anxious about the future that he does not enjoy the present, the result being that he does not live in the present or the future. He lives as if he is never going to die, and then dies having never really lived.

—Dali Lama, Tibetan Buddhist monk
(born 1935)

on this shortly)—and furthermore, the drugs used for treatment were themselves addictive! For example, he pointed out, methylphenidate (an ingredient in Ritalin®) is “classified as a Schedule II, controlled substance [and is a] central nervous system (CNS) stimulant and shares many of the pharmacological effects of amphetamine, methamphetamine and cocaine.” A respected early study was cited, concluding that “children treated with these stimulants take up smoking earlier, smoke more heavily and are more likely to abuse cocaine and other stimulants as adults.” The problem was, ADHD was called a “disease,” and the children so diagnosed were considered “diseased” and “abnormal.” “Lacking a disease [and] lacking diseased children,” Baughman and the committee concluded, “there is no justification of giving such drugs. Nor is it legal to give such drugs to admittedly normal children.”¹³⁷

Colorado State Board of Education member Patti Johnson agreed. Testifying before the US House of Representatives on September 29, 2000, she reminded her audience that although educators are not legally

permitted to practice medicine, “financial incentives exist for schools to label children with learning disorders.” Parents, she continued, are coerced into giving their children medication.

[One parent was] told her son had ADHD. . . . The school’s special education director eventually admitted that she had coaxed the teacher to answer the questions of the checklist used to determine if the child had ADHD in a certain manner so her son “would get the help he needed.”

[Another parent] said he at first complied with the school’s direction to have his son take a stimulant drug. The drug caused his son to become violent; he began taking steak knives out of the kitchen and stabbing his stuffed animals. When the parent took him off the drug, the principal of the school began pressuring him to resume the stimulant—so much pressure that the matter is now in court and the father could forfeit parental rights if he disagrees with the decision of the court on whether or not to place his child on Ritalin®.

. . . The label of ADHD [in the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders*, or *DSM*] is assigned if the child exhibits such symptoms as not listening when spoken to, is forgetful, fails to finish homework, fidgets, talks excessively, etc.—*the typical behavior of a normal child*. [emphasis added] Parents of children said to have these disorders are generally told that it is a neurological disorder or a chemical imbalance in the brain. Yet . . . the National Institutes of Health on ADHD in November 1998 . . . reported that “we do not have an independent, valid test for ADHD, and there are no data to indicate that ADHD is due to a brain malfunction. . . .”¹³⁸

It took parents of children who were harmed to initiate lawsuits against “designer” poisons and the companies that make them. The first landmark lawsuit against Prozac® and its manufacturer, Eli Lilly, was initiated in the early 1990s. The plaintiff in this case, Fentress, made the accusation that Prozac® had induced murder. As “the first action involving Prozac®,” Rappoport observed, “it would establish a major precedent for a large number of other pending suits against the manufacturer.” Using data culled from (among other sources) an article by Michael Grinfeld called “Protecting Prozac®” that appeared in the December 1998 issue of *California Lawyer*, Rappoport described how the trial appeared to have been fixed. In an astoundingly weak argument against Lilly, Paul Smith, the attorney for the plaintiff, did not even refer to criminal

violations committed by Lilly on other occasions—information that would have greatly helped strengthen his client’s case. After deliberating only five hours, the jury returned with a verdict favorable toward Lilly. Smith could only have omitted the damaging evidence against Lilly to obtain a favorable verdict for the drug company. In return, the case would be settled out-of-court, *in secret*, between Lilly and the plaintiff. Judge John Potter, who presided over the case, asked lawyers for both sides if “‘money had changed hands.’” The lawyers said no—without, however, acknowledging that an agreement was [already] in place.”¹³⁹ Technically, the attorneys had not lied. No money had changed hands (yet).

That trial catalyzed an ongoing investigation against attorney Smith. Rappoport cited Grinfeld:

In court papers, [Judge] Potter wrote that he was surprised that the plaintiff’s attorneys [Smith] hadn’t introduced evidence that Lilly had been charged criminally for failing to report deaths from another of its drugs to the Food and Drug Administration. Smith had fought hard [during the Fentress trial] to convince Potter to admit that evidence, and then unaccountably withheld it.

In 1996, the Kentucky Supreme Court issued an opinion on all this: “. . . there was a serious lack of candor with the [Fentress] trial court and there may have been deception, bad faith conduct, abuse of the judicial process or perhaps even fraud.”¹⁴⁰

Sometimes complainants are paid to shut up. Subsequent cases against Lilly, until around the year 2000, Rappoport wrote, were settled without a trial, “with such strict confidentiality, that it is almost as if they never happened. This smoothness, this invisibility, keeps the press away.” Out-of-court settlements also discourage greater numbers of people from coming “with lawyers and Prozac® horror-stories of their own because they are not reading about \$2 million or \$10 million or \$50 million settlements paid out by Lilly.”¹⁴¹

Nevertheless, there were small victories. Although Eli Lilly persisted in denying the validity of the study published in the February 1990 *American Journal of Psychiatry* that linked suicides to the ingestion of Prozac®,¹⁴² one of its divisions, Dista Products, issued a brochure for doctors dated August 31, 1990, stating that in the future “suicidal ideation” would be included in the adverse events section of its Prozac® product information. Another victory (at least partial) occurred in 2000. It began when New York-based Michael Carroll was visited by the Department of Social Service, which threatened to take away his 4-year-old son Kyle if he *stopped* giving his son Ritalin®. According to an article in the *Christian*

Three million children in this country take drugs for problems in focusing. Toward the end of last year, many of their parents were deeply alarmed because there was a shortage of drugs like Ritalin® and Adderall® that they considered absolutely essential to their children's functioning. But are these drugs really helping children? . . .

In 30 years, there has been a twentyfold increase in the consumption of drugs for attention-deficit disorder. As a psychologist who has been studying the development of troubled children for more than 40 years, I believe we should be asking why we rely so heavily on these drugs.

Attention-deficit drugs increase concentration in the short term, which is why they work so well for college students cramming for exams. But when given to children over long periods of time, they neither improve school achievement nor reduce behavior problems. The drugs can also have serious side effects, including stunting growth. . . .

Stimulants generally have the same effects for all children and adults. They enhance the ability to concentrate, especially on tasks that are not inherently interesting or when one is fatigued or bored, but they don't improve broader learning abilities. . . . the effects of stimulants on children with attention problems fade after prolonged use. . . . Many parents who take their children off the drugs find that behavior worsens, which most likely confirms their belief that the drugs work. But the behavior worsens because the children's bodies have become adapted to the drug. Adults may have similar reactions if they suddenly cut back on coffee, or stop smoking.

To date, no study has found any long-term benefit of attention-deficit medication on academic performance, peer relationships or behavior problems, the very things we would most want to improve. Until recently, most studies of these drugs had not been properly randomized, and some of them had other methodological flaws. . . .

Putting children on drugs does nothing to change the conditions that derail their development in the first place. Yet those conditions are receiving scant attention. . . . the large-scale medication of children feeds into a societal view that all of life's problems can be solved with a pill and gives millions of children the impression that there is something inherently defective in them. . . .

The illusion that children's behavior problems can be cured with drugs prevents us as a society from seeking the more complex solutions that will be necessary. Drugs get everyone—politicians, scientists, teachers and parents—off the hook. Everyone except the children, that is.

—L. Alan Sroufe

Professor Emeritus of psychology,
University of Minnesota's Institute of Child Development
"Ritalin Gone Wrong"
The New York Times, January 28, 2012

Science Monitor, Michael had halted Kyle's medication because the drug not only failed to help the boy with his reading problem, but it made him withdrawn and unable to sleep or eat. "From the beginning . . . I kept asking for special-education classes," Michael said. "They just wanted him to sit still and to push him through the system." Fortunately, a judge ruled that the concerned father could stop drugging his child if he found another doctor who said that Ritalin® was unnecessary. After Kyle was taken off the drug, he regained his appetite, was once more "his old outgoing self," and "performed well in special-education classes at a different school."¹⁴³

More doctors and parents have been recognizing that children are being overmedicated—though for some young people, this recognition occurs too late. From a 2004 newspaper article: "At least 110 American kids have killed themselves while taking antidepressants during the past, new FDA data says. . . . Those reports . . . led a scientist for the Food and Drug Administration to conclude that most antidepressants raise the risk of suicide in children."¹⁴⁴

Consider this April 2004 story from *The New York Times*, in which one doctor stated bluntly, "There is no good reason to prescribe these pills."¹⁴⁵ Eventually, the Individuals with Disabilities in Education Act (IDEA) was amended to address the forced medication of children. Schools would no longer have the right to coerce parents into medicating their children as a condition of their child's attendance at school.

Nevertheless, even as this important amendment was becoming law in 2004, pharmaceutical manufacturers were replacing lost income from discredited drugs by creating new ones—and then denying responsibility for subsequent damage. This denial had fatal consequences. In February 2004, 19-year-old Traci Johnson hanged herself at Eli Lilly's Indianapolis clinic. Johnson, whom Lilly acknowledged had been healthy, was taking part in a clinical trial to see how high doses of the antidepressant Cymbalta® affected healthy volunteers. The young woman had been taking up to *six times* the recommended 60 mg daily dose for depressed subjects. She was being weaned from the drug when she committed suicide. The FDA ruled six months later that the antidepressant had played no role in her suicide—even though the agency had told ten drug manufacturers in March to strengthen suicide-related warnings on labels for antidepressant drugs.

Despite the obvious legal biases in favor of Big Pharma, lawsuits have escalated against both drug companies and individual doctors. These lawsuits have been instituted not only by individuals related to people who have been harmed, but also by groups of people in class action cases.

The following are just a few examples of both. (More lawsuits are cited at breggin.com, SSRISTories.org, and aboutlawsuits.com.)

- ◆ In January 2002, lawsuits in California and New York contended that the drug companies Novartis and Ciba-Geigy, along with the American Psychiatric Association and the organization Children and Adults with ADD, conspired to create an extremely broad-based definition of ADHD to ensure hefty sales and profits. (Unfortunately, the Court did not agree.)
- ◆ In February 2006, Brett Bennett of Fort Myers, Florida, sued Forest Laboratories for product liability and failing to warn consumers that Lexapro® could cause people to commit suicide. His wife was taking the (prescribed) antidepressant when she killed herself.
- ◆ In 2010, GlaxoSmithKline agreed to pay more than \$1 billion to settle hundreds of lawsuits brought by parents of children with birth defects caused by Paxil®.
- ◆ In 2013, Eli Lilly settled a wrongful death lawsuit filed by the parents of 16-year-old Peter Schilf of South Dakota. He had committed suicide four weeks after taking the antidepressant Cymbalta®. The same lawsuit stated that Lilly had failed to tell doctors about another suicide (in February 2004) of a 19-year-old student who killed himself while taking part in a company-sponsored trial of Cymbalta® for urinary incontinence.
- ◆ In 2013, GlaxoSmithKline settled a Paxil® class action lawsuit in California for \$8.5 million. The company had failed to tell doctors that the drug is addictive, and can cause severe withdrawal symptoms.
- ◆ In February 2014, a jury in Chicago, Illinois awarded \$1.5 million to a boy who developed akathisia and dyskinesia—severe movement disorders that cause spasms, twitches, and relentless agitation and motion—while taking Risperdal® and Zyprexa® for five years. He was also taking Zoloft® and Paxil®. The cases were brought against the two psychiatrists who had prescribed the drugs
- ◆ In May 2014, a \$700,000 out of court settlement was awarded to someone whose psychiatrist had unnecessarily prescribed the antipsychotics Risperdal®, Seroquel® and Zyprexa®. They caused irreversible tardive akathisia (abnormal, incessant movements due to a malfunction of voluntary muscles). One of the charges was the failure to obtain informed consent.

It's difficult to obtain more recent information because lawsuits are still being litigated.

Do ADD and ADHD Even Really Exist?

Some people who object to drugging children with potent, growth-inhibiting pharmaceuticals also question whether or not ADD (and its newer version, ADHD) are even true diseases. It cannot be denied that many children today have difficulty sitting still, learning, and being “obedient.” Putting aside the question if this last “difficulty” is truly a problem (except to those who want their orders followed without questions or arguments), we must ask: “Do these behaviors truly qualify as ‘diseases’?”

Let's look at some possible scenarios under which a child might be diagnosed. She's bored and restless and doesn't sit still in class. Instead of having her needs met with stimulating material that challenges her intellect, she's diagnosed with a disorder and forced to take medication. Another child is disruptive and unruly. He interrupts the teacher, teases his classmates, and can't pay attention to his lessons. Had the teacher or principal taken the time to talk with him, they would have learned that he sees his drunken dad hit mom every night. But instead, he's diagnosed with a disorder and forced to take medication. A third child is withdrawn, dazed, unfocused, unable to read. She suffers from emotional and sexual abuse; but instead, she too is diagnosed with a disorder and forced to take medication. In “The Hazards of Treating ‘Attention-Deficit/Hyperactivity Disorder’ with Methylphenidate (Ritalin),” Peter Breggin and Ginger Ross Breggin write:

Children don't have disorders; they live in a disordered world. . . . The list of criteria for ADHD . . . identifies children who are bored, anxious, or angry around some of the adults in their lives . . . These “symptoms” should not red flag the children as mentally ill [however]. They should red flag the adults as requiring new efforts to attend to the needs of the children. . . .

Children aren't bored, inattentive, undisciplined, resentful or violent by their individual natures; but the stigmatizing label ADHD implies that they are. These children are usually more energetic and more spirited, or more in need of an interesting environment, than their parents and teachers can handle. . . .

Children can benefit from guidance in learning to be responsible for their own conduct; but they do not gain from being blamed for the trauma and stress that they are exposed to in the environment around them. They need empowerment, not humiliating diagnoses and mind-disabling drugs. Most of all, they thrive when adults show concern and attention to their basic needs as children.¹⁴⁶

There's another, political aspect to ADHD diagnosing. Caroline Miller, editorial director of the Child Mind Institute, reports that from 2004 to 2014, the diagnosis of ADHD increased 40%. The Centers for Disease Control (CDC) has estimated that as many as 20% of teenage boys have ADHD! What could account for such an increase in a non-infectious "disease"? To answer this question, Miller summarizes data from the book, *The ADHD Explosion*. In certain states, which created laws that financially penalized schools whose students failed standardized tests, the rates of ADHD diagnoses rose.

How do ADHD diagnoses help schools [that are] at risk of losing their funding? First . . . for kids who do have ADHD, it should improve their performance in school, including their test scores. Second, it may help kids who are disruptive in class [to] settle down, which could improve scores for the whole class. . . . So, even if it doesn't help the child it might help the school.¹⁴⁷

Miller's point—that the huge increase in ADHD diagnoses was spurred by financial incentives to the schools—seems to contradict the claim that ADHD doesn't exist, because students scored higher on standardized tests after taking the drugs. This appears to suggest that their ADHD diagnoses were correct, and taking pharmaceuticals was the correct solution. However, as Dr. L. Alan Sroufe has stated (see Sidebar, page 70), drugs for ADD and ADHD do in fact increase concentration for the short term (which is why college students use them when cramming for exams), and stimulants do enhance the ability to concentrate (especially when performing a task that's inherently boring, like most schoolwork). Over the long term, though these drugs no longer exert the desired effect. They appear to help what's perceived as a brain "malfunction" because they propel a child to score better on exams that are specifically *unable to measure true intelligence and problem-solving skills*.

Essentially, amphetamines are useful for helping people of all ages focus on boring, repetitive tasks that don't require intellect, creativity, or insight. The nervous systems of children who are fed amphetamines aren't being allowed to grow completely or normally. The children's ability to develop skills, question authority, and view the world "outside the box" is being stunted.

One of the most interesting points Miller raised was that diagnoses of ADHD rose sharply for children living "near the poverty line."¹⁴⁸ This can indicate increased relationship stresses, which often occur in under-parented homes and in families who don't have enough money. It can also mean poor nutrition.

Carolyn Dean—a co-author of the earlier referenced "Death By Medicine," and with degrees as both a conventional physician and naturopathic doctor—has written about why a child might be excessively restless, fail to learn or follow instructions, and have abnormally high levels of anxiety. Some key points are:

- ◆ *Environmental Toxins*. This includes heavy metals, air pollutants, food preservatives, artificial sweeteners, and harmful electromagnetic emissions. (See pages 9–16 for a brief summary on electropollution.)
- ◆ *Antibiotics*. Even one course of antibiotic drugs can wipe out the beneficial flora in the large intestine that help us digest our food and even produce vitamins. Moreover, antibiotics can upset the digestive tract and irritate the brain (making them an overlooked cause of behavioral changes in children). They can also aggravate, and even cause, hyperactivity.
- ◆ *Candida albicans Infections*. A *Candida* overgrowth results from antibiotics. This noxious fungus also proliferates with a diet of junk "food." *Candida* toxins infiltrate the brain, causing innumerable physical symptoms from skin rash to weight gain, and psychological issues including, but not limited to brain fog, mania, depression, and even autism and schizophrenia. (Dr. William Crook's literature explores this in depth.)
- ◆ *Food Allergies*. Incompletely digested proteins from allergenic foods travel through the bloodstream and cross the blood-brain barrier, affecting potentially all centers of the brain. Glutinous grains, soy, corn, and pasteurized/homogenized milk are common allergens. Foods that are genetically engineered (discussed in detail in Chapter 3) also ruin the gut and cause many other problems.
- ◆ *Nutrient Starvation*. Without the proper raw materials, children cannot develop properly. One health writer writes, "ADD . . . has been coined to characterize children deficient in magnesium and iodine."¹⁴⁹

Dr. Richard Saul, a behavioral neurologist, has seen far too many children diagnosed with ADHD in his decades-old practice in Chicago, Illinois, US. He was well aware, he writes, of statistics from 2008 to 2012, which showed that the number of adults taking medications for ADHD increased by 53% while the number of young American adults taking medications nearly doubled.

While this is a staggering statistic . . . frankly, I'm not too surprised. . . . Every day my colleagues and I see more and more people coming in

claiming they have trouble paying attention at school or work and diagnosing themselves with ADHD. . . . It's an easy catchall phrase that saves time for doctors to boot. But can we really lump all these people together? What if there are other things causing people to feel distracted?

I don't deny that we, as a population, are more distracted today than we ever were before. And I don't deny that some of these patients who are distracted and impulsive need help. What I do deny is the generally accepted definition of ADHD, which is long overdue for an update. . . . I've come to believe based on decades of treating patients that ADHD—as currently defined by the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* and as understood in the public imagination—does not exist. . . . Today, the fifth edition of the *DSM* only requires one to exhibit five of 18 possible symptoms to qualify for an ADHD diagnosis. . . . How many of us can claim that we have difficulty with organization or a tendency to lose things; that we are frequently forgetful or distracted or fail to pay close attention to details? Under these subjective criteria, the entire US population could potentially qualify. We've all had these moments, and in moderate amounts they're a normal part of the human condition. . . .

Over the course of my career, I have found more than 20 conditions that can lead to symptoms of ADHD, each of which requires its own approach to treatment. Among these are sleep disorders, undiagnosed vision and hearing problems, substance abuse (marijuana and alcohol in particular), iron deficiency, allergies (especially airborne and gluten intolerance) . . . and even learning disabilities like dyslexia, to name a few. Anyone with these issues will fit the ADHD criteria outlined by the DSM, but stimulants are not the way to treat them. . . . The drugs' addictive qualities are obvious. We only need to observe the many patients who are forced to periodically increase their dosage if they want to concentrate. This is because the body stops producing the appropriate levels of neurotransmitters that ADHD meds replace—a trademark of addictive substances. I worry that a generation of Americans won't be able to concentrate without this medication; Big Pharma is understandably not as concerned.¹⁵⁰

Half of the modern drugs could well be thrown out of the window, except that the birds might eat them.

—Martin H. Fischer
German-born American doctor
and author
(1879–1962)

When Psychotropic Drugs Work

Mind-altering drugs do help a percentage of the population. Some parents of children on medication report improvement in many aspects of the child's behavior and emotional and mental states: the ability to be calmer, increased focus, better comprehension, augmented reading skills, better behavior, and so on. Some adults report benefits from taking mind-altering drugs, too. I witnessed this myself decades ago with one of my own psychotherapy clients. She described experiencing more stable moods, as well as partial relief from depression, while on one popular psychotropic medicine. I had no reason to doubt her account. How could I possibly argue that someone hasn't experienced what she says she has experienced?

My intention is not to condemn those who find relief from mind-altering drugs. But at what price is this "relief" obtained? If you're a parent, do you want your child to continue taking medications that interfere with the growth of his brain and body? Do you want her to suffer from effects that make her wish she was not alive to experience them?

It cannot be denied that medicated children are more docile, obedient, and less likely to think for themselves (except, of course, when they're "disobedient" in the extreme and kill people). However, are the risks of pumping kids full of psychoactive drugs worth the negative effects? Especially considering all the factors that can contribute to problems of inattention? These factors include nutrient starvation; toxins; an out-of-control Big Pharma eager to create diagnoses and peddle its wares; a financially stressed educational system hungry to receive additional funding and devoted to controlling children rather than helping them learn; and a moderately stressful or completely traumatic home life, which creates emotional problems. (Who can blame children in such environments for not paying attention in school?) I cannot see any reason to medicate children *until and unless all holistic options have been skillfully applied*. Even then, pharmaceuticals should be used with the utmost of care. However, this is rarely the case.

The Breggins write, regarding amphetamines: "At the doses usually prescribed by physicians, children and adults alike are 'spaced out,' rendered less in touch with their real feelings, and hence more willing to concentrate on boring, repetitive schoolroom tasks."¹⁵¹ Similarly, my psychotherapy client admitted that sometimes her own feelings didn't seem quite "real." We must ask if this medication-induced state is true serenity, or a stupor.

We have seen that there are ways to balance the brain that don't involve pharmaceuticals. Using natural methods requires guidance from a skilled and experienced practitioner, but it can be done. Properly administered natural methods don't harm others. And they don't injure the people who are using them. Isn't it worth a try?

The arguments that favor psychotropic drugs always seem to omit several considerations. One, what are the causes of the conditions diagnosed as depression, ADD, ADHD, manic-depression (bipolar disorder), and other forms of mental and emotional suffering? Two, what do we need to address the *root causes* of these presumed disorders, rather than simply mask symptoms with medications? Three, what are psychotropic drug users missing by not trying other modalities? And four, at what price are some people obtaining relief? Will a psychotropic drug user have a full life? Is the "relief" worth the "side" effects of physical and mental malfunction? Is the "relief" worth the chance of becoming so "altered" that s/he commits brutal crimes—or becomes a victim of one?

It's clear that severe depression, extreme lack of focus, and other undesirable psychological conditions correlate to chemical imbalances. But *correlation does not mean "cause."* Just as brain chemistry imbalances can produce emotional, mental and behavioral dysfunction, external conditions can affect brain chemistry. Some conditions not mentioned earlier include chemical contaminants (such as heavy metals and pesticides), malfunctions in absorption and utilization pathways, thyroid imbalances (which profoundly influence mood and affect a surprisingly high percentage of the population), and pathogens such as certain strains of *Streptococcus*. Even the overuse of television and video games alters the neurological pathways in the brain, as I'll discuss later in this chapter. Is there any surprise, then, that children are exhibiting aberrant behaviors and bizarre symptoms on such a grand scale? Unless the root causes of emotional upset and perceived misbehavior are addressed, relying on a foreign chemical to balance brain chemistry doesn't make sense. As holistic practitioners like to say, no one has ever had a Prozac® deficiency. It's imperative to address the diagnoses themselves.

I have devoted considerable space to the drugging of (mostly underage) children because, in a bizarre example of life reflecting art, we appear to be in the process of creating a nation of zombies. Gary Null et al. write:

Patients have the freedom . . . to refuse medical treatment even if it is recommended by their physician, and to be informed about their medical condition, the risks and benefits of treatment, and appropriate alternatives.

—Association of
American Physicians and Surgeons,
October 2000
aapsonline.org/testimony/vacresol.htm

A whole generation of antidepressant users has resulted from young people growing up on Ritalin®. Medicating youth and modifying their emotions must have some impact on how they learn to deal with their feelings. They learn to equate [the skill of] coping with drugs, and not their inner resources. . . . [Even the *Journal of the American Medical Association* admits] Ritalin® acts much like cocaine."¹⁵²

We must ask: Do we want to experience our feelings, which is what makes us human—or numb ourselves from our experiences, emotions and sensations? Do we want to be empowered to deal with life—or deaden ourselves while we're still living? If we choose numbness, are we prepared for the possibility of becoming a suicide or murder statistic?

Assuming a more optimistic scenario—that more detailed warnings are put on drug labels, and that these warnings are accessible to consumers—class action lawsuits by parents and doctors may be too little, too late. We must prepare for the possibility that new laws can be created absolving drugs companies of liability, even if it can be proven that the companies knew about the dangers before the drugs were marketed. It's up to parents to educate themselves if they want to protect their children. The subordinate legal status of children (not to mention their still-growing brains and nervous systems) makes them vulnerable to being poisoned in the name of "illness prevention."

Anyone—whether it's a government, legal agency, doctor, teacher, priest, or parent—who uses a position of authority to force you to ingest a medication with questionable benefits and severe "side" effects, is either woefully ignorant or doesn't care about your welfare. And any law that forces someone to take medication, that limits access to information, or prevents people from seeking recourse if they are harmed, does not care that people are becoming mindless, ignorant, powerless, and sick. As long as people remain blindly obedient to the allopathic paradigm of "It's broken, so let Big Pharma fix it," those at the highest ranks of power will exert even tighter control over the general population. If we allow these attempts at control to continue, we'll have no one but ourselves to blame. And our children will be the ones who suffer the most, disregarded as "collateral damage."

THE VACCINE CONTROVERSY

By definition, drugs are supposed to be administered to those who are ill. But there's an entire class of drugs intended to be given only to people who are well: vaccines (that is, at least until recently).

Until about the early 2000s, the medical community's official position was that vaccinations should be given only to people presumed healthy. This is because the sick are acknowledged to be too immunologically weak to handle the effects that the vaccines are designed to produce. However, the medical community appears to have reversed its original (wise) position; and now, most doctors routinely advocate vaccinating everyone, whether they are healthy or ill. During flu season, the media urges everyone—*especially* the elderly and the ill—to receive vaccinations. And now children, and even infants who have just been born, are routinely being given vaccinations, often five at a time.

Despite mainstream medicine's claims that vaccines are necessary to eradicate disease, there are many convincing rebuttals to this argument that vaccination proponents never address. I will discuss the history of vaccines, what's in them, how they work (usually, not as intended), the political climate surrounding their forced administration, how to lessen their negative effects, and alternatives to them altogether. I will also address rabies shots, which in the US are mandatory for pets and some livestock.

The Origin of Vaccines

In present-day United States and other technologically advanced countries, vaccines are so common that it may be difficult to believe the world ever got along without them. But, like any commodity, vaccines have a history—and, like any commodity, a marketing strategy as well. The official history of vaccines is a familiar one, because it's constantly repeated by mainstream medicine. However, as with so many things in life that appear to be true, the tale we're told by mainstream medicine may not be as simple (or accurate) as we've been led to believe. The truth is more easily understood with a curious, questioning, open mind.

The major push to use and promote vaccines is rightfully attributed to Edward Jenner, an 18th century Englishman. Although modern medicine calls Jenner a doctor, the truth is much more complex, as revealed when we examine literature that cites primary source materials from the 1700s and 1800s. One heavily annotated article by Jennifer Craig, "Smallpox Vaccine: Origins of Vaccine Madness," states that although Jenner set up a practice as a surgeon and fancied himself a country doctor, he had not

earned that title. She quotes Walter Hadwen, MD, who described Jenner in a speech presented in 1896:

Now this man Jenner had never passed a medical examination in his life. He belonged to the good old times when George III was King, when medical examinations were not compulsory. Jenner looked upon the whole thing as a superfluity. It was not until twenty years after he was in practice that he thought it advisable to get a few letters after his name. Consequently he communicated with a Scotch university and obtained the degree of Doctor of Medicine for the sum of 15 [pounds] and nothing more.¹⁵³

The account of Jenner's "discovery" is well known in medical circles. During that time, milkmaids sometimes contracted cowpox—similar to the much more virulent human disease, smallpox—from the cows they milked. Jenner heard that milkmaids who'd previously been infected with cowpox were subsequently immune to smallpox. So he designed an experiment, based on the theory that cowpox blisters festering in afflicted individuals would protect them later from smallpox. In May 1796, Jenner injected pus, which he'd scraped from the cowpox blisters of a milkmaid, into an 8-year-old boy. The boy developed a fever, but not a full-blown cowpox infection. Then Jenner injected the boy with live smallpox pathogens to see if the lad would develop smallpox. He did not. Then the boy was injected with smallpox a second time; and again, apparently nothing happened. Thus Jenner proclaimed his experiment a success.

The tales about the milkmaids that Jenner believed were either the truth (according to vaccine supporters) or rumors (according to vaccine opponents). After Jenner's death, a physician wrote that cowpox had been confused with smallpox because each disease contains the word "pox." "To a pathologist or epidemiologist, it is as truly nonsense to speak of cowpox becoming smallpox as it is legitimate nonsense to prove that a horse chestnut is a chestnut horse."¹⁵⁴ Even if the stories that Jenner had heard were true, he committed three serious infractions. One, he did not bother to confirm the tales of immune milkmaids, instead relying completely on heresay. Two, he performed an unethical experiment, the act of deliberately inflicting illness on another human being. Three, he drew conclusions that were not supported by sound science—if indeed, it could be called "science" at all. Based on *one test subject*, Jenner decided that his vaccine was successful as a medical treatment—which he tirelessly promoted as such. This is the origin of *all* present-day vaccines. Jenner is the man to whom the medical community sometimes refers as the "Father of Immunology."

Jenner's procedure, originally called "cowpoxing," was later referred to as *vaccination*, based on the Latin word for "cow," which is *vacca*. However, it was the Chinese who first used a rudimentary form of vaccination called *variolation*. It may have been practiced as early as 1000 BC, and was more widely used between the 14th and 17th centuries. Another heavily annotated article, "Vaccination: A Mythical History"—this one, by medical doctor Suzanne Humphries and Roman Bystrianyk—explains that the idea of vaccination:

was introduced to the Western world by Lady Mary Wortley Montagu in 1717 [or 1718, according to Jennifer Craig]. She had returned from the Ottoman Empire with knowledge of the practice of inoculation against smallpox, known as variolation. This type of inoculation was simply a matter of *infecting a person with smallpox at a time and in a setting of his choosing*. The idea behind inoculation was that, *in a controlled setting*, people would do better against the disease than if they contracted it at some possibly less desirable time and place in the future. [emphasis added] ¹⁵⁵

The early Asian practice of infecting someone in a controlled setting is similar to modern "chicken pox parties" or "mumps parties" (or any gathering featuring other communicable childhood diseases), where children are sent to play with an infected child so they will contract the disease and be treated in a conscientious manner. Significantly, the oldest forms of variolation involved exposure to smallpox scabs via the skin or inhalation, rather than by injection—which makes sense, because in daily living, the disease is contracted via touch or through the air. However, in her travels, Lady Montagu also encountered a more direct, crude predecessor to inoculations. "The old woman rips open the vein that you offer her," Montagu wrote, "and puts into the vein as much [smallpox] venom as can lie upon the head of her needle . . . [The people] are well for eight days. Then the fever seizes them and they keep their beds two days . . . then they are as well as before their inoculation." ¹⁵⁶

Throughout history, trends have often been started by famous people. With the practice of inoculation, it was no different. Soon after Lady Montagu's return to England, the upper classes were receiving vaccinations. Jennifer Craig reports that almost immediately, "two people died: a young servant in a Lord's household and the small son of the Earl of Sutherland. The church deplored the intervention in God's will, physicians deplored the influence of 'ignorant women,' and the public deplored the spread of the disease." Moreover, she writes, the

disease was spread because "inoculated people were fully contagious during their brief illness," and therefore "they could, and did, start epidemics." ¹⁵⁷ If vaccinated folk truly enjoyed a lower mortality rate than those who had naturally contracted smallpox, Humphries and Bystrianyk suggest that those improvements, rather than being due to inoculation, "had something to do with the fact that the wealthy had better access to more nutritious food and a cleaner environment than the majority of society." ¹⁵⁸

Meanwhile, Jenner was busy marketing his idea.

In 1798, Jenner published his results claiming lifelong protection against smallpox, using his discovery with only rumors to support his contention. While he promoted the use of his technique based on the tale that someone infected with cowpox would be immune to smallpox, there were doctors of the time who challenged this myth, *because they had seen smallpox follow cowpox*. At a meeting of the Medico-Convivial Society, Jenner was ridiculed over his practice. [emphasis added] ¹⁵⁹

Note that the Medico-Convivial Society medical gathering was not the first place in which prophylactic vaccination had been challenged. Much earlier, in 1764, an article called "The Practice of Inoculation Truly Stated" was published in *The Gentleman's Magazine and Historical Chronicle*. The author observed that because smallpox was a contagious disease, deliberately infecting more people would simply create new venues to spread it. Comparing the number of deaths from smallpox in the 38 years before the introduction of inoculation to the 38 years after its introduction, the author found that the number of deaths had *increased*, rather than decreased. "The practice of inoculation," he wrote, "manifestly tends to spread the contagion." ¹⁶⁰ Humphries and Bystrianyk agree that the "one major and generally unacknowledged drawback to variolation [was that] those inoculated could and did spread smallpox, creating more deaths than there would have been naturally." ¹⁶¹ However, this didn't stop Jenner from claiming that his experiment was the newest and best way to combat disease.

In 1799, three years after Jenner's one and only test case, a Mr. Drake repeated Jenner's experiment. He inoculated some children with cowpox material obtained from Jenner, followed by smallpox material—to test if the cowpox inoculation had been effective. All of the children developed smallpox. Humphries and Bystrianyk, referring to a published account from 1898, write that "Jenner received the report but decided to ignore the results because they were not in support of his theory." ¹⁶²

By the early 1800s, there were many documented cases of vaccine failure. “Dr. Lettsom, writing in 1806, tells us that whereas smallpox deaths for 42 years before inoculation were 72 per thousand, there were 89 per thousand in the 42 years after its introduction.”¹⁶³ In 1809, the *Medical Observer* recorded the names, dates, and locations of the people who had died from inoculations. One entry read, “The patient had been vaccinated, and the parents were assured of its security. The vaccinator’s name was concealed.”¹⁶⁴ A doctor wrote later, in “The Case Against Vaccination” (published in 1896): “The cow doctors could have told him [Jenner] of hundreds of cases where small-pox had followed cow-pox.”¹⁶⁵ And in 1817, an article in *The London Medical Repository Monthly Journal and Review*, Volume VIII, stated that “the number of all ranks suffering under Small Pox, who have previously undergone Vaccination by the most skillful practitioners, is at present alarmingly great.” [original spelling and punctuation intact]¹⁶⁶

In 1819, in an article called “On the Present State of Vaccination,” surgeon Thomas Brown wrote that after vaccinating 1,200 people, he was disappointed because people could still contract smallpox and even die from it. Therefore, he vowed, he would no longer support the practice.¹⁶⁷ This was a brave stance, considering that physicians were well compensated for administering vaccines (just as they are today). Craig explains how the medical profession rationalized the failure rates:

It didn’t take long before cases of smallpox among the vaccinated were reported. The first response was denial, but when the vaccinated were obviously afflicted, Jenner and his supporters said that the disease was milder in form. But when the vaccinated caught the disease and died, [vaccine supporters] had to come up with another explanation. Re-naming the disease did the trick—they didn’t die of smallpox, they died of the re-named disease: “spurious cowpox.”

Despite increasing evidence that vaccination with cowpox pus did not prevent smallpox, the practice continued. Physicians, for the first time, attended the healthy; 100% of their catchment areas could now be treated instead of the 10% who had contracted smallpox. As Dr. Hadwen so aptly remarked in 1896, “What Jenner discovered, though hardly original in its general principle, was that it pays far better to scare 100% of the fools in the world—the vast majority—into buying vaccine than it does to treat the small minority who really get smallpox and who cannot afford to pay anything. It was indeed a very great

Why G.B. Shaw Changed His Mind

George Bernard Shaw (1856–1950) was born in Dublin, Ireland. He was a social critic, journalist, novelist, co-founder of the London School of Economics, and advocate of equal rights for women. Although Shaw wrote prolifically about education, religion, class privilege, government and health, he’s probably best known for being a playwright. His stage play, *Pygmalion*, was adapted for a film, and later for a musical, called *My Fair Lady*. Shaw won a Nobel Prize in Literature in 1925, and an Academy Award in 1938 for his work on the film version of *Pygmalion*.

July, 1931

Dear George Bernard Shaw:

A few years ago I believe you stated that you were opposed to vaccination. It has been said that great men frequently change their minds, and I should like to ask whether you still condemn vaccination?

Will you forgive me if I ask whether you have ever been successfully vaccinated? The subject of vaccination is one that interests millions of persons, and is my excuse for asking these personal questions. With best wishes for a long, healthy life, I am,

Yours very truly,
Chas. F. Pabst, MD



London, July 19, 1931

Dr. Pabst:

I was vaccinated in infancy and had ‘good marks’ of it. In the great epidemic of 1881 (I was born in 1856) I caught smallpox.

During the last considerable epidemic at the turn of the century, I was a member of the Health Committee of London Borough Council, and I learned how the credit of vaccination is kept up statistically by diagnosing all the re-vaccinated cases as pustular eczema, varioloid, or what-not—except smallpox. I discovered a suppressed report of the Metropolitan Asylums Board on a set of re-vaccinations which had produced extraordinarily disastrous results. Meanwhile I had studied the literature and statistics of the subject. I even induced a celebrated bacteriologist to read Jenner. I have no doubt whatever that vaccination is an unscientific abomination and should be made a criminal practice.

G. Bernard Shaw

—from A.R. Hale, *The Medical Voodoo*, 1935
vaccinationcouncil.org/2010/02/26/
smallpox-vaccine-origins-of-vaccine-madness

VACCINE SCHEDULE, GREAT BRITAIN		
Vaccine	Age Administered	Details
5-in-1	Infants, 2 months. Infants, 3 months. Infants, 4 months.	Routinely offered to all babies. One jab is for diphtheria, tetanus, whooping cough (pertussis), polio and Haemophilus influenzae type b. This is the first dose. Second jab. Third jab.
Pneumococcal	Babies at 2 months, 4 months, and 12–13 months. Adults age 65 and over. Optional: students 18–25 years.	Babies receive 3 separate injections. Adults receive it once. People who are ill receive it either once or every 5 years. Those with long-term health problems, such as a serious heart or kidney disorder, should receive the vaccine too.
Rotavirus	Infants age 2–3 months.	Two jabs, at least one month apart. First dose must be given before 15 weeks; second dose must not be given later than 24 weeks. If baby is seriously ill with vomiting, diarrhea or fever, postpone injection until child is well.
Meningitis C	Infants age 3 months and 12 months, and children 13–15 years of age. Optional: students 18–25 years.	Infants receive two jabs spaced several months apart, and teenagers 13–15 years old receive “booster” shots. Acknowledged not to “protect” against another form of the disease, Meningitis B.
Measles, mumps and rubella (MMR)	Babies under 1 year old, and then between 3–5 years.	Two jabs.
Annual Flu— “Children’s” Flu	Any child over age 2.	Received annually, usually as a single dose of nasal spray squirted up each nostril.
4-in-1 pre-school booster, also known as DTaP/IPV	Children age 3 years, 4 months, to up until child begins school.	One jab is for diphtheria, tetanus, whooping cough (pertussis), and polio.
3-in-1 teenage booster, also known as Td/IPV	All young people 13–18.	One jab is for diphtheria, tetanus, and polio.

VACCINE SCHEDULE, GREAT BRITAIN		
Vaccine	Age Administered	Details
HPV (Human papilloma virus)	All girls age 12 and 13.	Two jabs 6–24 months apart. Girls who received first vaccine before September 2014 receive 3 jabs.
3-in-1 teenage booster, also known as Td/IPV	All young people 13–18.	One jab is for diphtheria, tetanus, and polio.
Annual Flu—Adults	Anyone.	One jab annually.
Shingles	Some adults over age 70.	One jab annually.
OPTIONAL: Tuberculosis (TB)	Babies from areas with high TB counts or whose parents or grandparents had TB; certain teens and adults considered “at risk”; travelers to certain areas.	One jab.
OPTIONAL: Hepatitis B	Drug users; sexually active; babies born to infected mothers; relatives of infected persons; people with liver or kidney disease; medical personnel of all kinds; prisoners.	Three jabs 4–6 months apart.
OPTIONAL: Chicken Pox (Varicella)	Children, pregnant women, people with weakened immunity, health workers.	Two jabs 4–8 weeks apart.
OPTIONAL: Cholera, Hepatitis A, Typhoid, Yellow Fever	Anyone traveling to a foreign country where there have been outbreaks of these diseases.	Special circumstances vary; adapted for traveling.

Source: “Vaccinations.” NHS [National Health Service] Choices.
[nhs.uk/Conditions/vaccinations/Pages/5-in-1-infant-DTaPIPvHib-vaccine.aspx](https://www.nhs.uk/Conditions/vaccinations/Pages/5-in-1-infant-DTaPIPvHib-vaccine.aspx), April 4, 2014.

Note: the word “jab” is used on the website.

VACCINE SCHEDULE, UNITED STATES, mostly from birth through age 6 (simplified)		
Vaccine	Age Administered	Details
Hepatitis B	Birth, within 12 hours. Infants, 1–2 months. Infants, 6–15 months.	Routinely offered to all babies. Second dose. Third dose. A fourth dose is suggested under some circumstances.
Rotavirus 1-dose series 2-dose series 3-dose series	Infants, 2 months. Infants, 4 months.	
Pneumococcal (PCV13 vaccine)	Infants, 2 months. Infants, 4 months. Infants, 6 months. Babies, 12–15 months. Optional: students 18–25 years.	The Centers for Disease Control (CDC) lists a complex schedule of vaccine administration for children up to 18 years old who have chronic heart disease; chronic lung disease (including asthma); diabetes; cerebrospinal fluid leak; cochlear implant; sickle cell disease; HIV infection; chronic kidney failure; organ transplants; and cancerous conditions associated with radiation “treatment” and immunosuppressive drugs, including leukemia, lymphoma, and Hodgkin’s disease.
Tetanus, Diphtheria, and Acellular Pertussis (Tdap)	Infants, 2 months. Infants, 4 months. Infants, 6 months. Babies, 15–18 months. Children, 4–6 years. Adolescents 11–12 years old.	May also be administered to pregnant girls. This Tdap vaccine has a very complicated schedule depending on the manufacturer. There are also “booster” shots.
Inactivated Poliovirus Vaccine (IPV)	Infants, 2 months. Infants, 4 months. Infants, 6–18 months. Children, on or after 4 years of age.	The poliovirus is said to be inactivated. However, viruses lie dormant for long periods; and even pieces of virus that enter cells can cause damage.
Measles, mumps and rubella (MMR)	Babies, 12–15 months. Children, 4–6 years.	All schoolchildren are required to have 2 doses of MMR.

VACCINE SCHEDULE, UNITED STATES, mostly from birth through age 6 (simplified)		
Vaccine	Age Administered	Details
Chicken Pox (Varicella)	Babies, 12–15 months. Children, 4–6 years.	The second dose may be administered before age 4 if at least 3 months have elapsed since the first dose. The CDC has a schedule of catch-up vaccinations as well.
Flu: <i>Haemophilus influenzae</i>, type B	Infants, 6 weeks or 12 months, depending on vaccine manufacturer. Once a year thereafter.	The CDC has a very complicated schedule of when to administer additional doses, depending on various circumstances. A “Catch-up Schedule” is posted on its website.
Meningococcal conjugate vaccine	Minimum age: 6 weeks or 9 months, depending on manufacturer. Two doses: the “main” dose, with a “booster” shot. Those with increased risk of disease are advised to get more shots.	
Hepatitis A	First dose: babies, 12–23 months. Also advised for those said to be at increased risk for infection: travelers; homosexual males; users of oral and injectable recreational drugs; people with chronic liver or clotting factor disorders; laboratory personnel working with animals infected with Hep A.	Two doses, separated by 6 to 18 months.
HPV (Human papilloma virus)	Three doses for all girls age 11–13, though the girl can be as young as 9 years old. Sometimes boys are inoculated as well.	This is the only vaccine listed here given to young children after age 6. The Human papilloma virus is typically contracted through sexual activity.

Source: CDC website.
cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html
 accessed September 15, 2015.

discovery—worth thousands of millions. That is why this kind of blackmail is still kept going.” . . . When Jenner died in 1823, three kinds of smallpox vaccines were in use: 1) cowpox—promoted as “pure lymph from the calf,” 2) horsegrease—promoted as “the true and genuine life-preserving fluid,” and 3) horsegrease cowpox.

Following Jenner’s death, the vaccine establishment used one excuse after another to explain the failure of vaccination: the number of punctures was incorrect, or that re-vaccination was necessary, or that the lymph was impure. The smallpox deaths of vaccinated patients in [the] hospital were recorded as “pustular eczema.”¹⁶⁸

From 1820 to 1822, smallpox escalated to epidemic proportions in the north of England. In 1829, the British medical journal *Lancet* reported: “It attacked many who had had small-pox before, and often severely; almost to death; and of those who had been vaccinated, it left some alone, but fell upon great numbers.”¹⁶⁹ Seventy-three years after Jenner’s death, the medical community was still trying to undo the damage that he had created.

Nevertheless, enthusiasm for vaccines spread to other countries, including the US, France, and Germany. Clearly, though, vaccines weren’t delivering what they promised. “Data from Boston that begins in 1811,” analyze Humphries and Bystrianyk, “shows that, starting around 1837, there were periodic smallpox epidemics that culminated in the great 1872 epidemic.” The periodic episodes occurred in 1855, 1859, 1860, 1864, 1865 and 1867, just before that final infamous epidemic. From 1872 to 1873, there was:

the most severe smallpox epidemic since the introduction of vaccination. These repeat smallpox epidemics showed that the strict vaccination laws instituted by Massachusetts in 1855 had no effect at all. . . . In fact, more people died in the 20 years after the strict Massachusetts vaccination compulsory laws than in the 20 years before.

By this point, the medical profession no longer claimed lifelong protection against smallpox from a single vaccination. Instead, claims were made that vaccination made smallpox less likely to kill or that smallpox would be milder. Calls were then made for revaccination.¹⁷⁰

In 1869, back in the United States, *The New York Times* commented on the inoculation situation in England: “The public vaccinators have received immense sums from Parliament. . . . Other sums, also, which I cannot name, have been granted for the purpose of sustaining this monstrous fraud. Has ever a quack remedy produced so much gain?”¹⁷¹

It would seem to be impossible for a rational mind to conceive that a filthy virus derived from a smallpox corpse, the ulcerated udder of a cow, or the running sores of a sick horse’s heels, and cultivated in scabbed festers on a calf’s abdomen, could fail to have disastrous effects when inoculated into the human body.

—Maurice Beddow Bayly, MRCS, LRCP

June 1936

whale.to/vaccines/bayly.html

By the first part of the 20th century, the town of Leicester, in England, was widely reported in the news because the majority of its citizens refused vaccinations—despite grim prophecies that they were inviting a smallpox outbreak. To the surprise of many, deaths from smallpox proved far lower than when the vaccination rates had been high. Dr. J.W. Hodge’s article, “How Small-Pox was Banished from Leicester,” discussed how an unvaccinated

population was less susceptible to—and less afflicted by—the disease than vaccinated populations.¹⁷² In fact, figures analyzed by Humphries and Bystrianyk show that from 1859 to 1922, official deaths related to vaccination exceeded more than 1,600. “Official” figures were obtained only from the deaths that were acknowledged and reported; many more may have died from inoculations. Dr. Tebb wrote, in 1884: “Vaccination was made compulsory by an Act of Parliament in the year 1853; again in 1867; and still more stringent in 1871. Since 1853, we have had three epidemics of small-pox, each being more severe than the one preceding.”¹⁷³

Over time, symptoms of smallpox became much milder and the severity of the disease lessened. In fact, smallpox became much more difficult to diagnose, and was often confused with chicken pox. “By the 1920s,” report Humphries and Bystrianyk, “it was recognized that the new form of smallpox produced little in the way of symptoms, even though few had been vaccinated.” Despite how few people were vaccinated, however:

there was never a resurgence of smallpox. Even though smallpox was not a major issue, the practice of smallpox vaccination continued from the time of the last smallpox death in the United States in 1948 up until 1963. This resulted in an estimated 5,000 unnecessary vaccine-related hospitalizations from generalized rash, secondary infections, and encephalitis.¹⁷⁴

The Theory of How Vaccines Work—and the Reality of Why They Don't (and Can't)

The theory of how vaccines work is simple. One sentence on the College of Physicians of Philadelphia website states simply: “Vaccines work by mimicking disease agents and stimulating the immune system to build up defenses against them.”¹⁷⁵ This explanation sounds reasonable. But the reality is more complex—and problematic. Before I discuss how the reality deviates from the ideal, let us briefly review what happens in the body during an infection, how the body’s immune response normally mobilizes, and how a strong immune response offers protection.

The body’s natural immune response consists of many different types of immune cells. Just a few are B cells, NK (natural killer) cells, and T cells. All of them are a subset of *white blood cells*, but because they’re found in the lymphatic fluid they’re called *lymphocytes* as well. Another type of immune cell is called an *antigen-presenting cell* (APC). Each type of immune cell has a specialized function, and works with all the other types to recognize, tag, and destroy pathogens and microbial wastes so the body can then excrete them.

Certain types of immune cells, such as white blood cells, are equipped to recognize pathogens. The surfaces of all microorganisms that cause or contribute to disease contain *antigens*—biochemical markers, unique to each particular pathogen. In response to the antigens, some immune cells produce *antibodies*, which attach to the corresponding antigens like a key in a lock. Once a pathogen is recognized, the antibody either tags it for destruction, or prevents it from entering the body’s tissue cells. Antibodies are also produced in response to foreign proteins. The foreign proteins can appear in many forms: a mismatched blood transfusion, an incompletely digested food, an allergen, or even one’s own tissue proteins (in the case of an autoimmune disease).

The B cells and the T cells are responsible for creating copies of the original tissue cells that were exposed to the actual pathogens. This helps the body retain the “memory” of an encounter with a pathogen, so that in the future, if the same type of pathogen reinfects the host, the white blood cells will recognize, tag, attack, and eliminate the invader even more quickly and efficiently.

So how exactly do vaccines confer immunity in ways that the body’s own immune cells can’t? The Carrington College website states that “vaccinations ‘program’ the immune system to remember a specific disease-inducing microorganism by letting it ‘practice’ with a weakened, killed or inactivated version of the pathogen”¹⁷⁶ that’s dispensed in the inoculation. As you will see, there are

some serious flaws to this theory. Here are the five main types of vaccines, according to the website of the CDC (Centers for Disease Control) and other institutions, along with explanations of how they’re supposed to work:

- ◆ *Live, attenuated vaccine.* Used for viral infections including varicella (chicken pox), and the three in the MMR formula: measles, mumps and rubella. This contains a presumably “weakened” version of a viable virus to avoid causing serious disease in people who are vaccinated. The CDC cautions that the recipient of this type of vaccine must have a healthy immune system, admitting that “Even though these vaccines are very effective, not everyone can receive them.”¹⁷⁷ Live, attenuated vaccines are thought to be similar to a natural infection, so they’re regarded as “good teachers” for the immune response.
- ◆ *Inactivated vaccine.* Made with “inactive” or “killed” pathogens, such as the polio virus. The immune response to inactivated vaccines is presumably different than to “live” or “attenuated” (weakened) vaccines. Multiple doses are usually recommended as “necessary” to build up and maintain immunity.
- ◆ *Toxoid vaccine.* Used to prevent diseases caused by the toxins produced by bacteria. The toxins are “weakened” (and are now called *toxoids*); so presumably they cannot cause illness. It’s assumed that the immune response of someone receiving this type of vaccine learns how to contend with the natural toxin. One example of a toxoid vaccine is the DTaP, which contains diphtheria and tetanus toxoids.
- ◆ *Subunit vaccine.* Contains only parts (subunits) of a virus or bacterium, rather than the entire pathogen. The theory is that “side” effects to this vaccine are lessened because the vaccine contains only “essential” antigens rather than all the components of the pathogen. Pertussis (whooping cough) is manufactured into a subunit vaccine.
- ◆ *Conjugate vaccine.* Designed for bacteria whose antigens are coated with sugar-like substances called *polysaccharides*. Polysaccharide coatings on an antigen are believed to disguise it, thus making it difficult for the immature immune cells of some people (such as children) to recognize and respond to the antigen. Conjugate vaccines are supposed to *join together* (conjugate or connect) the polysaccharides to antigens, thus enabling the immune cells to recognize and handle the bacteria. *Haemophilus influenzae* type B (Hib) is made into a conjugate vaccine, and was specifically developed for children.

The Truth About the Centers for Disease Control and Prevention

The first word in the name is not “Center” but . . . “Centers.” There is no Center in Atlanta that does medical research or cures diseases. What is in Atlanta is merely a government administrative building which administers the many “Centers” throughout the United States. The Atlanta office is funded and operated by the [US] Federal Government. [However] The many different Centers are [independent corporations] mostly funded with private grant money from pharmaceutical companies who deal in drugs relating to the specialty of each of the many Centers.

If a Center in Montana, specializing in rare tropical reptilian viruses, accidentally discovers a new Framawitz Disease and finds that a drug called Gillibrulin will cure it, then the disease and the drug are owned by the pharmaceutical company which privately funded the medical research. . . . The purpose of the main office in Atlanta is to be a promotional agent and salesman for the pharmaceutical companies who “discover fictitious disorders” at the various “Centers” and then convince you that to prevent Framawitz Disease you need to be on a lifetime dose of Gillibrulin. . . .

In the last 20 years . . . I have identified 12 fictitious medical problems which have resulted in massive billion dollar profits to a few pharmaceutical houses. All of the medical problems were either man-made or don’t exist, and were hyped and promoted by the CDC. All of them [include] the words Disorder or Syndrome in their names. That’s because they are not legitimate diseases. . . . I call it bio-terrorism.

—Marshall Smith, “Fever and The Mystery Disease SARS: A Bio-terror Weapon Spreads Around the World”
BroJon Gazette, March 31, 2003

“It would be nice,” rhapsodizes the CDC, “if there were a way to give children immunity to a disease without their having to get sick first. . . . [Therefore] the antigens in vaccines are either killed, or weakened to the point that they don’t cause disease. However, they are strong enough to make the immune system produce antibodies that lead to immunity. In other words, a vaccine is a safer substitute for a child’s first exposure to a disease. The child gets protection without having to get sick. Through vaccination, children can develop immunity without suffering from the actual diseases that vaccines prevent.”¹⁷⁸

In theory, then, vaccines should work. But the reality is very different. Holistic chiropractor Tedd Koren states:

Researchers always assume that if there are high antibody levels after vaccination, then there

is immunity . . . But are antibody levels and immunity the same? No! Antibody levels are not the same as *immunity*. The recent mumps vaccine fiasco in Switzerland has re-emphasized this point. Three mumps vaccines—Rubini, Jeryl-Lynn and Urabe (the one withdrawn because it caused encephalitis)—all produced excellent antibody levels but those vaccinated with the Rubini strain had the same attack rate as those not vaccinated at all. . . .¹⁷⁹

The medical community has known about these statistics for a long time. Back in 1980, a team of scientists in the *New England Journal of Medicine* stated: “It is important to stress that immunity (or its absence) cannot be determined reliable on the basis of history of the disease, history of immunization, or even history of prior serologic determination.”¹⁸⁰ (*Serologic determination* is the diagnostic identification of antibodies in a bodily fluid—in this case, in the serum or blood plasma.)

The very rationale for administering vaccines is riddled with misconceptions. The CDC’s claim—that children don’t suffer from the diseases that vaccines are supposed to prevent—is false. Children (and adults) do get sick from inoculations, often seriously. Sometimes they die.

I’ll discuss illness and death from vaccines in more detail shortly; but for now, I cannot overemphasize this critical point. *Antibodies cannot be equated with immunity*. When pharmaceutical companies claim that a vaccine is “effective,” they simply mean that the vaccine has succeeded in forcing the body to create antibodies against the pathogen(s) that are in the vaccine. Now, most doctors consider a high antibody count desirable because they have been trained to believe that a high antibody count indicates a strong, active immune response. But people with antibodies to a disease can, and do, contract the disease. After being vaccinated, they may develop the very disease against which they’ve been inoculated. The presence of antibodies indicates *only* that a person (or animal) has recently been challenged by a particular pathogen. Antibodies = *challenge*, and nothing else.

On the other hand, there are those with no detectable antibodies in their system, yet who enjoy strong immunity. The *lack* of an antibody response (called a *titer*) does not mean that an individual lacks immunity to the disease. And it doesn’t mean that an individual hasn’t been challenged by a pathogen. The lack of an antibody response simply means that the individual has not *recently* mobilized any immune cells. The immune cells in a normally functioning human or animal should respond *only* when challenged by a disease. If there hasn’t been a recent exposure, a healthy person or animal should not be producing antibodies. If

someone is producing antibodies when there hasn't been a recent exposure, this means that the immune function is *hyperactive*—overreacting. To analogize, you see a sleeping kitten but have a panic attack as though a bear were charging at you. In such a case, an autoimmune condition—an overreaction of the immune cells—is likely to exist. Not surprisingly, many autoimmune conditions are either exacerbated or outright caused by vaccines. The immune cells correctly perceive that the foreign proteins (contained in all vaccine formulas) don't belong in the body, and therefore launch an antibody storm to attack them.

The presence of antibodies, then, cannot be interpreted simplistically. In fact, establishment medicine has long recognized that the presence of antibodies is only part of a healthy immune response. Researchers know that memory cells play an even more important role, because it's memory cells that prompt the other immune cells to create antibodies and send them to the appropriate sites. Also, memory cells don't need reminders to keep producing antibodies, as summarized by the title of an article in a 1999 edition of *Science Magazine*: “Memory T Cells Don't Need Practice.”¹⁸¹

Scientists never found a way to test and monitor memory cells. But they have been able to develop tests that can assess an antibody response. Could this be why, with vaccine promotion, the spotlight is on antibodies?

An infant . . . receiving up to 13 vaccines . . . [at the same time, is taking] 13 medications at once. . . . Not one vaccine has ever been tested according to the scientific gold standard, that of a double-blind, placebo-controlled study. . . . Many vaccines contain ingredients that have never been clinically approved by the FDA. . . . Vaccine making pharmaceutical companies are permitted by the FDA to do their own safety testing, with no oversight and no verification from a financially independent entity. . . . They do not use placebos for controls.

—Laura Hayes
“Vaccines: Elimination Mandatory!”
September 5, 2016
ageofautism.com/2016/09/vaccines-elimination-mandatory.html#more

What's In Vaccines and Their Effects

Vaccines are drugs that are more than merely ineffective. They actively reduce immune function because they contain dangerous foreign materials that were never meant to be in our bodies, and thus cannot be metabolized or excreted easily (if at all). The “main” ingredients are the pathogens against which we are supposedly being immunized. But there are many other ingredients too. Some are used as preservatives. Some are irritants, intended to stimulate immune cell activity. Still other ingredients are supposed to ensure that the pathogens remain inactive (a goal that's almost never accomplished).

Any one of the following substances in vaccines can cause a severe negative reaction. Usually, people aren't told what's in the vaccines, even if some of the ingredients are common allergens. (Not all of these ingredients are found in every vaccine, but many of them are.)

Altered Pathogens

All inoculation formulas contain viruses or bacteria, whole or in partial pieces, in different states of presumed activity. In their unaltered state when infecting the body in a “normal” way, viruses can wreak havoc. They penetrate the cell membrane of the host, appropriating the host's DNA and RNA in order to thrive and reproduce. Viruses are known for their ability to remain dormant for long periods of time, often hiding in the bodily tissues—until they're reactivated by stressors, including illness. The website of The Tech Museum of Innovation (supported by the Department of Genetics at the Stanford School of Medicine in San Jose, California) states:

DNA is constantly subject to mutations, accidental changes in its code. Mutations can lead to missing or malformed proteins, and that can lead to disease. . . . Some mutations happen during cell division, when DNA gets duplicated. Still other[s] . . . are caused when DNA gets damaged by environmental factors, including UV radiation, chemicals, and viruses.¹⁸²

What might happen, then, when *altered* viruses are administered in vaccines? The two basic methods of preparing viruses for vaccines are explained by homeopathic veterinarian Dolores Sánchez -Peñalver.

Though some vaccines are referred to as “killed” they are not truly killed. They are instead “inactivated” . . . generally with heat, radiation, or chemicals. . . . “Modified live” [also called “weakened virus”] vaccines are made up of *particles* of live viruses that have been altered in a laboratory by passing the virus through animal tissue repeatedly to partially break it up and reduce its potency. . . . The reason for using only parts of the viruses in these vaccines is so that the “attenuated” viruses will be “non-disease causing.” *In theory* the virus cannot reproduce, multiply, and create pathology. . . . [But in reality,] viral agents are fully capable of reproduction [and causing illness] within the cells of the animal into which they have been injected. [emphasis added]¹⁸³

Resolution Concerning Mandatory Vaccines

Based in Tucson, Arizona, United States, the Association of American Physicians and Surgeons was established in 1943 as a voice for “private” physicians.

There are increasing numbers of mandatory childhood vaccines, to which children are often subjected without meaningful informed consent, including information about potential adverse side effects. . . . The process of approving and “recommending” vaccines is tainted with conflicts of interest. . . . Safety testing of many vaccines is limited and the data are unavailable for independent scrutiny, so that mass vaccination is equivalent to human experimentation. . . . AAPS calls for a moratorium on vaccine mandates and for physicians to insist upon truly informed consent for the use of vaccines.

Patients have the freedom . . . to refuse medical treatment even if it is recommended by their physician, and to be informed about their medical condition, the risks and benefits of treatment, and appropriate alternatives.

The AAPS calls for a moratorium on vaccine mandates and for physicians to insist upon truly informed consent for the use of vaccines.

—Association of American Physicians and Surgeons
October 2000
aapsonline.org/testimony/vacresol.htm

So, even if a virus cannot reproduce in its usual or customary manner, this doesn’t mean that it’s safe. *By their very nature, viruses, regardless of their form, have the potential to become infectious at any time.* Anyone who’s been infected by *Herpes* once, and then has another outbreak when under stress, knows this. Establishment medicine knows this too. It even has a term for this “viral potential”: *latency* or *dormancy*. Viruses, *including their proteins*, can remain dormant in a body until conditions change that allow them to become active. The abstract for the article, “Virus reactivation: a panoramic view in human infections,” which appeared in the April 2011 issue of *Future Virology*, explains how this occurs:

Another mode of virus infection is the latent phase, where the virus is “quiescent” (a state in which the virus is not replicating). A combination of these stages, where virus replication involves stages of both silent and productive infection without rapidly killing or even producing excessive damage to the host cells, falls under the umbrella of a persistent infection. Reactivation is the process by which a latent virus switches to a lytic phase of replication. [In the *lysogenic* phase, a virus attaches to the DNA of the host, and, without destroying

the host cell, replicates when that cell divides. In the *lytic* phase, a virus overtakes the host cell and reproduces; and after the cell is completely filled, it bursts, releasing more viruses to infect additional cells. The lytic cycle is the more common way for viruses to spread.] Reactivation may be provoked by a combination of external and/or internal cellular stimuli [in other words, stressors]. . . . *This article examines the published literature and current knowledge regarding the viral and cellular proteins that may play a role in viral reactivation.* The focus of the article is on those viruses known to cause latent infections, which include herpes simplex virus, varicella zoster virus, Epstein-Barr virus, human cytomegalovirus, human herpesvirus 6, human herpesvirus 7, Kaposi’s sarcoma-associated herpesvirus, JC virus, BK virus, parvovirus and adenovirus. [emphasis added]¹⁸⁴

The medical community is so aware of the viability and activity of viruses (or pieces of them) after inoculation—for a few weeks, years, or even decades—that they even have a name for it: *shedding*. *When a virus sheds, it’s active and transfers to others.* This is how an illness can be caught from *vaccinated* individuals.

Here is a simple summary. Viruses are resilient. They take over the host’s DNA. Although they appear to be inert, they can be activated at any time, prompted by an almost unlimited number and variety of stressors. One of those stressors is another virus—or, as stated in the previously quoted *Future Virology* article abstract, *pieces of viruses*, the “viral and cellular proteins.” *All* viral genetic material damages our own genetic code and deteriorates our immune response in a multifaceted manner.

The problem is, foreign material in the form of unnaturally weakened or “killed” viruses is present at too low a level to stimulate the body’s normal defenses. But it does not readily leave our tissues, and the body responds to its presence in an abnormal way. Nutritional biochemist A. Van Beveren, PhD, writes:

The body does not usually tolerate viruses unless they have been weakened (so as not to awaken a strong response) or tricked through a route (usually injection) that bypasses . . . organs and functions that would inevitably lead to normal, natural expulsion. But [by being] synthetically weakened and directly introduced into the bloodstream, these bits of aberrant nucleoproteins are capable of remaining latent toxicants for many years without continually provoking acute illness, yet keeping the defense system restless and “on guard” almost indefinitely.¹⁸⁵

Being continually “on guard” causes intense stress. The psychological signal is anxiety and the physical indicator is disease. Because “killed” viruses migrate directly into the DNA, the body—responding differently than it would to “normal” viruses—is not signaled properly to stop these “killed” viruses. But eventually, Van Beveren explains, the weakened viruses become too plentiful for the body to ignore. Enough weakened viruses are incorporated “into an appropriate chromosome [of the body’s cells,] and start the production of non-self proteins, [that] the only proper response from the organism must be to make antibodies—against its own cells.”¹⁸⁶ This explains the recent astronomical increase of chronic and degenerative autoimmune diseases. The body attacks itself, no longer able to recognize its own cells due to the gradual, stealthy, unnatural introduction of foreign material.

As long ago as 1976, at a seminar sponsored by the American Cancer Society, Rutgers University professor Robert Simpson warned of a similar autoimmune reaction in response to vaccination. “Immunization programs against flu, measles, mumps, polio, and so forth, may actually be seeding humans with RNA to form latent proviruses in cells throughout the body. . . . When activated under the proper conditions . . . [these proviruses] could cause a variety of disease.” Some of the conditions he named were rheumatoid arthritis, Multiple Sclerosis, systemic lupus erythematosus, Parkinson’s, and “possibly cancer.”¹⁸⁷ Additional conditions, says Van Beveren, with some level of autoimmune dysfunction, include hemolytic anemia, granulocytopenias, immune thyroiditis, sympathetic ophthalmopathy, chronic active hepatitis, polyarthritis, rheumatic fever, endomyocarditis, periarteritis nodosa, Addison’s disease, atrophic gastritis, pernicious anemia, immune pancreatitis, primary biliary cirrhosis, thrombocytopenias, and ulcerative colitis. Generalized glandular and organ damage, allergies, developmental disorders, and diseases like encephalitis—which cause erosion of the myelin sheath that covers the nerves—can also be vaccine-related (and often are).

“The thymus gland in vaccinated children,” Van Beveren explains, “atrophy much more, much faster, than in countries whose children are allowed to initiate a generalized inflammatory response.”¹⁸⁸ Moreover, there are implications for children whose parents have been vaccinated. The title of an article in *Discover*—“Dormant viruses can hide in our DNA and be passed from parent to child”—says it all.¹⁸⁹

Although vaccinations are now routinely given to babies, and adults who are weak, ill and elderly, safety studies for vaccines are done solely on small populations of healthy volunteers. Usually, no testing is done at all.

Waste Products from Humans and Animals

Other vaccine ingredients (which could also be considered “primary”) are as foreign to the body as viruses. This is not a complete list, but it’s representative of the foreign animal and human tissue that vaccines contain.

- ◆ *Dried Pus.* A protein-rich fluid of dead leukocytes (white blood cells) that accumulate at a diseased site to combat infections. Pus was one of the original ingredients in the first inoculations.
- ◆ *Scabs.* A hard coating on the skin made of blood platelets (similar to a blood clot), which forms when a wound heals. This was one of the original ingredients in the first inoculations.
- ◆ *Calf Serum.* Blood plasma from aborted calf fetuses, with the red blood cells removed. This fluid is used to provide a nutrient broth for culturing various viruses.
- ◆ *Chick Embryo.* This is used to grow the pathogens for rabies, yellow fever, and influenza vaccines.
- ◆ *Army Worm Cells.* Cells, usually from the ovaries of *Spodoptera frugiperda* (sometimes called “insect cell line” or “expresSF+”), used to speed the process of producing vaccines, typically used for influenza.
- ◆ *Monkey and Dog Kidney Cells.* Utilized to support the growth of certain viruses used in some vaccines, including formulas for polio, encephalitis, rotavirus, and influenza.
- ◆ *Pig, Sheep, and Horse Blood.* Sometimes accompany the animal cells that are part of the vaccine formulas.
- ◆ *Mouse and Rabbit Brain.* Used as a growth medium for the virus in the rabies vaccine.
- ◆ *DNA from Aborted Human Fetuses (Human Fetal Diploid Cells).* Used to grow viruses for various vaccines, including adenovirus, rabies, Hepatitis A, Hepatitis B, MMR, and varicella (chicken pox).

The medical community makes a point of stating that these materials are sterilized, but this is a ludicrous claim. By definition, such byproducts from blood and tissues are dirty. By definition, pus and cellular protein particles are waste. Hospitals try to reduce infection by sterilizing equipment and keeping operating rooms free of contaminants such as blood, pus, and tissue—the very substances that are injected into the body as inoculations. If this material is harmful enough to avoid touching, why is it safe to inject?

A medical writer points out that one huge problem with these various decomposed, foreign proteins—

“biological substances composed of animal cells”—is that “they enter directly into the bloodstream,” which allows them to “become part of our [own] genetic material.”¹⁹⁰ These proteins, which are the genetic material of cells from other species, can also be implanted into human tissue by any viruses that are in the vaccines. Remember, viruses enter any cells easily and appropriate the host’s DNA. This is why they’re often used by researchers to deliberately escort other (foreign) materials into the cells.

Many vaccine ingredients are obtained in a horribly cruel manner. Sentient, healthy dogs and monkeys are deliberately infected. Then workers collect the products of disease from these suffering animals.

Dirty byproducts are invited into the body every winter that people line up for flu shots, every time parents accept vaccines as a condition for their children being able to attend school, every time a doctor—in the name of “healing”—jabs an infant. On so many levels, there is no justification for putting medical waste into the body.

Heavy Metals

Mercury. Vaccines contain *thimerosal*, a compound that’s about 50% mercury by weight. Used in vaccines as a preservative due to its antifungal properties, thimerosal, says the FDA, has a “long record” in “preventing bacterial and fungal contamination of vaccines.”¹⁹¹ Fungi tend to grow in vaccines containing many different types of bacteria, compared to single-pathogen vaccines that do not promote fungus growth as readily. Because multiple-purpose vaccines are cheaper to produce than single-purpose vaccines, thimerosal is widely used.

Toxicologists rightly regard mercury—widely known as a *neurotoxin* (nerve poison)—as one of the most lethal substances on Earth. The website of the United States Environmental Protection Agency bluntly states: “All forms of mercury are quite toxic, and each form exhibits different health effects.”¹⁹² Gary Null, PhD and Martin Feldman, MD, summarize research studies gleaned from respected medical journals:

Promotion of the Gardasil® Vaccine: A War on Girls—and Now Boys, Too

The Gardasil® vaccine, distributed by Merck & Co., is supposed to produce immunity to the human papilloma virus (HPV), which is implicated in genital warts and cervical cancer. (Cervarix® from GlaxoSmithKline is another brand name for a similar formula.) First marketed to girls as young as age 9, to be taken in three doses over a six month period, the vaccine is now marketed to boys age 12 and over, for mouth and throat cancers supposedly acquired during oral sex. The FDA approved the vaccine in 2006, and the CDC encourages all boys and girls to take it.

No data exists showing that these vaccines prevent cervical cancer. The two testing periods—5 and 8.4 years—were too brief because cervical cancer can take 40 years to manifest from the onset of an HPV infection. Just several of the vaccine’s adverse effects include autoimmune conditions; early menopause; chronic fatigue; brain damage, convulsions, seizures and paralysis; deafness; blindness; lethal inflammatory cardiovascular disorders; cervical cancer itself; and death.

Fifteen-year-old honor student Gabi Swank was one inoculation casualty. She said she felt pressured into being vaccinated by incessant TV advertisements. Not warned of any undesirable effects, she suffered two strokes, resulting in partial paralysis and vision loss, and now often must use a wheelchair. Thirteen-year-old Jenny Tetlock, 15 months after being inoculated, developed a degenerative muscle condition that left her almost totally paralyzed. And a daughter of Dr. Scott Ratner, after her first Gardasil® dose, was affected as well. She became, he stated, a “chronically ill, steroid-dependent patient with autoimmune myofasciitis. I’ve had to ask myself why I let my eldest of three daughters get an unproven vaccine against a few strains of a nonlethal virus that can be dealt with in more effective ways.”¹⁹³ In 2007, 1,700 girls in the US alone reported adverse effects. In 2012, 4,700 adverse effects were reported in the UK. However, of 200 claims filed against the manufacturer in the US, only 49 have been compensated for injury caused by the vaccine. (The 49 claimants received about \$120,000 each.) Even nursing infants have died whose mothers received the vaccine: one of the earliest reports was filed in the Vaccine Adverse Event Reporting System on September 1, 2010.

A 2013 *Annals of Medicine* article reported: “The world’s leading medical authorities state that HPV vaccines are an important cervical cancer prevention tool, [but] clinical trials show no evidence that HPV vaccination can protect against cervical cancer. . . . In the Western world cervical cancer is a rare disease with mortality rates that are several times lower than the rate of reported serious adverse reactions (including deaths) from HPV vaccination.”¹⁹⁴ Even Dr. Diane Harper, a former Merck employee who helped get Gardasil® approved, criticized the vaccine. She says that no data beyond five years has shown the vaccine’s effectiveness, and consumers should be warned of its dangers.

After four girls died in India in 2010, the drug was banned. In Germany, scientists stated that the HPV strains most implicated in cervical cancer were not even in the vaccine, so they couldn’t support it. In 2015, the Japanese government recommended that no one take Gardasil® due to all the negative reactions. In the US, this vaccine is still heavily marketed because of politics, not health. Just one example of many: Texas governor Rick Perry issued an executive order in 2007 that all Texas girls be vaccinated with Gardasil®—after his former chief of staff became a lobbyist for Merck. Merck had given thousands of dollars in political donations to the governor.

Mercury exposure has been associated with nerve cell degeneration, adverse behavioral effects, and impaired brain development. It also has been linked to degenerative chronic conditions such as Alzheimer's disease. The developing fetal nervous system is the most sensitive to its toxic effects, and prenatal exposure to high doses of mercury has been shown to cause mental retardation and cerebral palsy.¹⁹⁵

To give you an idea of how thimerosal is used, the multi-dose flu vaccine contains 51,000 ppb (parts per billion) of mercury. This amount—51,000 ppb—is 25,000 times more than the legal maximum limit for mercury in drinking water, as established by the United States Environmental Protection Agency (EPA). Moreover, mercury that's injected is completely absorbed, one hundred percent. This makes it even more toxic than when it's in a glass of water that you drink, or in the large fatty ocean fish that you eat for your meal.

Despite mercury's deserved reputation as a poison, the mercury compound thimerosal is promoted by the medical establishment, the FDA, and even the EPA as the "helpful" and "safe" form of mercury, compared to other types. There is so much confusion and misinformation surrounding thimerosal that we need to take at least a brief look at the three different forms of mercury and their widely acknowledged effects.

- ◆ *Elemental / Metallic / Inorganic Mercury (Chemical Symbol is Hg).* Alone, unbound to any other substance, mercury is a thick silvery liquid at room temperature. (Some readers may remember, as children, playing with mercury globules, which are also known as "quicksilver.") Even short-term exposure causes damage to the central nervous system (CNS) in the form of tremors, mood changes, and delayed sensory and motor nerve function. Chronic (long-term) exposure causes additional problems of a psychological nature, such as irritability and excessive shyness.
- ◆ *Inorganic Mercury Compounds.* In the field of chemistry, *inorganic* means "without carbon." Inorganic mercury compounds are formed when mercury combines with any other element—for example, chlorine, sulfur or oxygen—*except* carbon. One common mercury compound is a salt called mercuric chloride. Oral ingestion causes nausea, vomiting, and severe abdominal pain. Chronic exposure causes kidney damage, abnormal development, and tumors, in (among other areas) the stomach, thyroid, and kidneys.

- ◆ *Organic Mercury Compounds.* In the field of chemistry, *organic* means "with carbon." Organic mercury compounds are formed when mercury combines with not only carbon, but some other elements too. Methylmercury is one of the two most common organic mercury compounds. Acute exposure causes developmental abnormalities and CNS damage, including blindness, deafness, and impaired perception. Chronic exposure causes additional CNS damage, including blurred vision, speech difficulties, visual field constriction, lethargy, and paresthesia (a sensation of tingling, pricking, or burning on the skin). Children of women who ingested high levels of mercury compounds while pregnant have a much greater risk of developing cerebral palsy, problems with motor coordination and balance, blindness, and mental retardation.

Whether in its single-element form or combined with another element as a compound, mercury is deadly. But what about thimerosal? As mentioned, highly toxic methylmercury is one of the two most common organic mercury compounds. The other common organic mercury compound is *ethylmercury*. When thimerosal is metabolized by the body, it breaks down into ethylmercury.

Both methylmercury and ethylmercury (thimerosal's byproduct) travel to all body tissues, and can even cross the placental and blood-brain barriers. But the medical establishment claims that ethylmercury is safe because (unlike methylmercury) it's excreted quickly by the body. In fact, the FDA website states, thimerosal "is metabolized or degraded to [presumably harmless] ethylmercury and thiosalicylate. Ethylmercury is an organomercurial that should be distinguished from methylmercury, a related substance that has been the focus of considerable study."¹⁹⁶

However, even the FDA acknowledges that "some infants could have been exposed to cumulative levels of mercury during the first six months of life that exceeded EPA recommended guidelines for safe intake of methylmercury." But, it assures us, this has nothing to do with vaccines, because the "existing guidelines [are] for exposure to *methylmercury*"—and the metabolite of thimerosal is *ethylmercury*, for which "there are no existing guidelines." Furthermore, declares the FDA, "At the time of this review in 1999, the maximum cumulative exposure to mercury from vaccines in the recommended childhood immunization schedule was within acceptable limits for the methylmercury exposure guidelines set by FDA, ATSDR [Agency for Toxic Substances and Disease Registry], and WHO [World Health Organization]."¹⁹⁷

For the moment, let's overlook the FDA's guarantee that it's following the "acceptable limits" for thimerosal as set by three government agencies (and its attempt

to divert us from the issue by saying that “there are no existing guidelines” for ethylmercury). Is there indeed, as the FDA claims, a substantial difference between methylmercury (acknowledged to be toxic), and its metabolite, ethylmercury (which is considered safe, whose precursor is used in vaccines)?

A July 2015 Internet search, using the phrase “methylmercury vs. ethylmercury,” located an article in the August 2013 issue of the *Journal of Applied Toxicology*, called “Toxicity of ethylmercury (and Thimerosal): a comparison with methylmercury.” The authors review numerous *in vivo* and *in vitro* studies that show damage to cardiovascular, neural, and immune cells. Because ethylmercury has a shorter half-life than methylmercury, the authors assume that it possesses “different”—in other words, less harmful—“exposure and toxicity risks.” “In real-life scenarios,” they comment, “a simultaneous exposure to both [ethylmercury] and [methylmercury] might result in enhanced neurotoxic effects in developing mammals,” adding that “our knowledge on this subject is still incomplete, and studies are required to address the predictability of the additive or synergic toxicological effects of” both forms of mercury.¹⁹⁸ Intentional or not, this conclusion is misleading. Ethylmercury is dangerous in its own right, separate from any simultaneous exposures to methylmercury.

Many studies exist that clearly show the harm of ethylmercury and its precursor thimerosal. Here is a very small sample of studies, from the earliest to most recent. Note that the May 2010 article draws on research conducted in the 1930s and 1940s. Even then, scientists knew that thimerosal was toxic!

- ♦ October 2001: “Predicted mercury concentrations in hair from infant immunizations: cause for concern.” The abstract states: “As part of an ongoing review, the Food and Drug Administration (FDA) announced in 1999 that infants who received multiple TMS-preserved vaccines may have been exposed to cumulative Hg in excess of Federal safety guidelines. . . . Neurobehavioral alterations, especially to the more susceptible fetus and infant, are known to occur after relatively low dose exposures to organic mercury compounds. . . . Given that exposure to low levels of mercury during critical stages of development has been associated with neurological disorders in children,

If you inject thimerosal into an animal, its brain will sicken. If you apply it to living tissue, the cells die. If you put it in a Petri dish, the culture dies. Knowing these things, it would be shocking if one could inject it into an infant without causing damage.

—Robert F. Kennedy Jr.
“Deadly Immunity: Exposing the
Vaccine-Autism Link,” 2005

including ADD, learning difficulties, and speech delays, the predicted hair Hg concentration resulting from childhood immunizations is cause for concern. Based on these findings, the impact which vaccinal mercury has had on the health of American children warrants further investigation.”¹⁹⁹

- ♦ June 2005: “Mitochondrial mediated thimerosal-induced apoptosis [cell death] in a human neuroblastoma cell line (SK-N-SH).” The abstract states: “Environmental exposure to mercurials continues to be a public health issue due to their deleterious effects on immune, renal and neurological function.

Recently the safety of thimerosal, an ethyl mercury-containing preservative used in vaccines, has been questioned due to exposure of infants during immunization. Mercurials have been reported to cause apoptosis [cell death] in cultured neurons; however, the signaling pathways resulting in cell death have not been well characterized. Therefore, the

objective of this study was to identify the mode of cell death in an *in vitro* model of thimerosal-induced neurotoxicity . . . Within 2 h[ours] of thimerosal exposure (5 microM) to the human neuroblastoma cell line, . . . morphological changes, including membrane alterations and cell shrinkage, were observed. Cell viability . . . showed a time- and concentration-dependent decrease in cell survival upon thimerosal exposure. . . . These findings suggest deleterious effects . . . by thimerosal.”²⁰⁰

- ♦ May 2010: “The relative toxicity of compounds used as preservatives in vaccines and biologics.” The authors write: “The present study was specifically designed to evaluate the relative toxicities of compounds commonly used as preservatives in US licensed vaccines, to human neurons and bacterial cells. Overall, none of the compounds commonly used as preservatives can be considered ideal preservatives. They were all found to be significantly toxic to human neurons, and worse they were all found to be significantly more toxic to human neurons than [to] bacterial cells. . . . it is doubtful that any of the compounds commonly used as preservatives . . . would comply with the CFR requirements for preservatives. . . . future formulations of vaccines/biologics should be produced in aseptic manufacturing plants as single dose preparations, eliminating the need for preservatives and minimizing the risk to patients.”²⁰¹

- ◆ November 2010: “Making sense of epidemiological studies of young children exposed to thimerosal in vaccines.” The abstract bluntly states: “Since the use of TCV [thimerosal-containing vaccines] is still inevitable in many countries, this increases the need to protect vulnerable infants and promote actions that strengthen neurodevelopment. Developing countries should intensify campaigns that include breastfeeding among efforts to help prime the central nervous system to tolerate exposure to neurotoxic substances, especially thimerosal-Hg.”²⁰²
 - ◆ October 2013: “Low-dose mercury exposure in early life: relevance of thimerosal to fetuses, newborns and infants.” The abstract states: “This review explores the different aspects of constitutional factors in early life that modulate toxicokinetics and toxicodynamics of low-dose mercury resulting from acute ethylmercury (etHg) exposure in Thimerosal-containing vaccines (TCV). Major databases were searched for human and experimental studies that addressed issues related to early life exposure to TCV. It can be concluded that: a) mercury load in fetuses, neonates, and infants resulting from TCVs remains in blood of neonates and infants at sufficient concentration and for enough time to penetrate the brain and to exert a neurologic impact and a probable influence on neurodevelopment of susceptible infants; b) etHg metabolism related to neurodevelopmental delays has been demonstrated experimentally and observed in population studies; c) unlike chronic Hg exposure during pregnancy, neurodevelopmental effects caused by acute (repeated/cumulative) early life exposure to TCV-etHg remain unrecognized; and d) the uncertainty surrounding low-dose toxicity of etHg is challenging but recent evidence indicates that avoiding cumulative insults by alkyl-mercury forms (which include Thimerosal) is warranted. It is important to [not accept] . . . as ‘innocuous’ (or without consequences) the presence of a proven ‘toxic alkyl-mercury’ (etHg) at levels that have not been proven to be toxicologically safe.”²⁰³
 - ◆ December 2013: “A two-phase study evaluating the relationship between Thimerosal-containing vaccine administration and the risk for an autism spectrum disorder diagnosis in the United States.” The abstract states that even though the “etiology of ASD [Autism Spectrum Disorder] remains under debate, . . . many studies suggest toxicity, especially from mercury (Hg), in individuals diagnosed with an ASD.” The authors compare two vaccinated populations: one whose injections contained thimerosal, the other whose injections did not. “There was a significantly increased risk ratio for the incidence of ASD reported following the Thimerosal-containing DTaP [Diphtheria-Tetanus-acellular-Pertussis] vaccine in comparison to the Thimerosal-free DTaP vaccine. . . . The present study provides new epidemiological evidence supporting an association between increasing organic-Hg exposure from Thimerosal-containing childhood vaccines and the subsequent risk of an ASD diagnosis.”²⁰⁴
 - ◆ February 2014: “Acute exposure to thimerosal induces antiproliferative properties, apoptosis, and autophagy activation in human Chang conjunctival cells.” The abstract states: “Previously we have shown that acute exposure to thimerosal (Thi) can induce oxidative stress and DNA damage in a human conjunctival cell line. . . . [In this study,] DNA strand breaks were significantly increased in a dose-dependent manner with [a] 30 minute exposure to Thi [thimerosal]. . . . Acute exposure to Thi can induce DNA damage, and eventually can lead to cell death.”²⁰⁵
 - ◆ March 2014: “Mechanisms of Hg species induced toxicity in cultured human astrocytes: genotoxicity and DNA-damage response.” At concentrations generally assumed to be safe, all types of mercury cause DNA strand breakage, which interfere with the body’s ability to repair cells.²⁰⁶
 - ◆ April 2014: “In vitro study of thimerosal reactions in human whole blood and plasma surrogate samples.” The authors state: “this organomercury fragment [thimerosal] is a potent neurotoxin and is suspected to have similar toxicity and bioavailability like the methylmercury cation.”²⁰⁷
 - ◆ April 2014: “Suppression by thimerosal of ex-vivo CD4+ T cell response to influenza vaccine and induction of apoptosis in primary memory T cells.” The authors report a “proapoptotic [cell death] effect of thimerosal on human lymphocytes *at concentrations one hundred times less than those contained in the multidose vaccine*, indicating “the inhibitory effect of this preservative on T cell proliferation and functions at nanomolar [phenomenally tiny] concentrations.” [emphasis added]²⁰⁸
 - ◆ June 2014: “Thimerosal induces apoptotic [cell death] and fibrotic changes to kidney epithelial cells in vitro.”²⁰⁹
- Not all of the above studies were done *in vitro* (outside the body). The 1930s and 1940s research cited by the May 2010 article had been conducted on living beings. Yet thimerosal’s dangers have been continually trivialized, denied, and ignored by the medical establishment. Due to

Shouldering the Burden of Injections

The FDA website claims that thimerosal has “no ill effects established other than minor local reactions at the site of injection.”²¹⁰ But these “minor local reactions” of swelling and pain are not minor at all. Most vaccines are administered into the deltoid muscle of the shoulder. Sometimes, though, the material is incorrectly inoculated into the bursa—a fluid-filled sac, located deep inside the top of the shoulder, that’s designed to protect the shoulder tendons. Inoculated material that lodges inside the bursa can provoke the immune cells to attack the area. This inflammatory response results in the condition commonly called “frozen shoulder.” Some people are able to lift their arms again after awhile, but others are not so fortunate.

So many people have experienced vastly reduced range of motion in their arm after an injection, that the condition has been given a name: *shoulder injury related to vaccine administration*, or *SIRVA*. The first journal article about this phenomenon was published in 2007. In “Vaccination-related shoulder dysfunction,” the authors wrote that “the upper third of the deltoid muscle should not be used for vaccine injections, and the diagnosis of vaccination-related shoulder dysfunction should be considered in patients presenting with shoulder pain following a vaccination.”²¹¹

In 2010, the journal *Vaccine* published “Shoulder injury related to vaccine administration (SIRVA).” The authors wrote: “Common clinical characteristics include absence of a history of prior shoulder dysfunction, . . . rapid onset of pain, and limited range of motion. The proposed mechanism of injury is the unintentional injection of antigenic material into synovial tissues resulting in an immune-mediated inflammatory reaction. Careful consideration should be given to appropriate injection technique when administering intramuscular vaccinations to reduce the risk of shoulder injury.”²¹² And in 2012, the case of a 22-year-old woman “with no significant medical history” of shoulder injury was reported in the *Journal of the American Board of Family Medicine*. In an article called “A ‘needling’ problem: shoulder injury related to vaccine administration,” the authors reported “contusions on the humerus, injury of the supraspinatus, and effusion in the subacromial bursa . . . shoulder injury related to vaccine administration, likely due to injection of the influenza vaccine into the subacromial bursa.”²¹³

Since 2011, 112 people have been compensated by the US Court of Federal Claims, due to improper administration of a vaccine.

recent public outcry, the FDA finally recommended that the amount of thimerosal in vaccines be reduced, or in some cases eliminated. However, the agency still insists that “undetected” amounts (presumably existing as part of the manufacturing process) are safe. This is a blatant lie. *There are no safe levels of any type of mercury*. Not one study has ever shown that minuscule amounts of any type of mercury are safe to inject into a living being.

Aluminum. The (justified) concern over mercury may have obscured the dangers of aluminum and its compounds (hydroxide, phosphate, potassium sulfate, hydroxyphosphate sulfate). *Aluminum, a heavy metal, is a known neurotoxin that causes damage similar to, if not worse than, even mercury*. Doctors have long known of its effects: “Aluminum, a neurotoxin which affects diverse [over 200] metabolic reactions,” was published in a scientific journal in 1990.²¹⁴ Aluminum displaces trace minerals, causes cancerous tumors to grow at the injection site, protects pathogens in the blood vessels, and causes massive systemic inflammation. It’s known for causing brain damage and myriad neurological disorders: dementia, convulsions, comas, autism, Multiple Sclerosis (because it strips the myelin from nerve cells), and Parkinson’s disease. Dr. Hugh Fudenberg—considered the world’s leading immunogeneticist, as well as being an extensively quoted biologist with over 600 published scientific papers—discovered that the brains of people with Alzheimer’s, compared to those who don’t have Alzheimer’s, contain abnormally high levels of aluminum. A March 2018 study, “Aluminum in brain tissue in autism,”²¹⁵ showed that autistic children have up to ten times more aluminum in their brains than what’s considered a safe level in adults.

In 1993, doctors at the University of Paris identified a new condition they called *macrophagic myofasciitis* (MMF): microscopic lesions on the shoulder muscles that cause pain, tenderness and weakness in the muscles; joint pain; fatigue; and fever. The doctors discovered that the lesions were caused by the aluminum hydroxide in vaccines—which remains at the injection site, causing an abnormal influx of specialized immune cells called *macrophages*. Drug manufacturers say they put aluminum in vaccines because they want the immune cells to react more strongly to a virus or toxin. But injected aluminum causes the immune cells to turn on and *stay* on. This “hyper-immunity” is actually an autoimmune condition, and is responsible for the chronic fatigue present in MMF.

When ingested in food or drink, 0.2–1.5% of aluminum is absorbed. When injected, 100% of the metal is absorbed, and travels straight to the brain. (Proponents of aluminum in vaccines conveniently omit this detail.) It makes no sense to inject poison into the body.

Eye-Opening Statistics About Vaccines

Autism

- ◆ Rate of autism in the 1980s: 1 in 10,000.
- ◆ Rate of autism today: 1 in 68.
- ◆ Projected rate of autism in 2025: 1 in 2.
- ◆ Number of studies showing vaccine-autism link: 97.



Number of Vaccine Doses Recommended by the Centers for Disease Control (CDC)

- ◆ By age 6, per the 1972–1988 schedule: 23.
- ◆ By age 6, per the current schedule: 49.
- ◆ By age 18, per the current schedule: 69.
- ◆ For the 2-month baby checkup: 8.



Aluminum

- ◆ Amount of aluminum in the seven doses at the 20-month baby checkup: 1000 mcg.
- ◆ Maximum permitted amount of aluminum per day for intravenous feeding, for a healthy 8-pound baby: 18.16 mcg.
- ◆ Amount of aluminum received by fully vaccinated 18-month-old baby: 5000 mcg.
- ◆ Number of studies proving safety of injecting aluminum into human infants: 0.
- ◆ The body's need for aluminum: 0.



Mercury

- ◆ Amount in liquid waste considered toxic by the Environmental Protection Agency: 200 ppb.
- ◆ Amount in "thimerosal-free" vaccines: 2000 ppb.
- ◆ Amount in some single-dose and some infant flu shots: 25,000 ppb.
- ◆ Amount in multi-dose flu vaccines, given to pregnant women: 50,000 ppb.
- ◆ Amount that kills human neuroblastoma cells: 0.5 ppb.
- ◆ Number of mercury doses adults would receive in an average lifespan proposed in the National Adult Immunization Plan: 184.
- ◆ Increase in fetal deaths associated with mercury in the swine flu shot given to pregnant women: 4,250%.
- ◆ The body's need for mercury: 0.

Number of Various Reports to the United States VAERS (Vaccine Adverse Event Reporting System)

VAERS is a program, sponsored by the CDC and FDA, that collects data reported to it about "adverse events" (negative reactions) observed to result from vaccines. These figures were compiled in 2015.

- ◆ Life-threatening reactions after vaccinations: 7,403.
- ◆ Permanent disability after vaccinations: 7,632.
- ◆ Hospitalization after vaccinations: 28,835.
- ◆ Emergency room visits after vaccinations: 165,358.
- ◆ Deaths after vaccinations: 3,974.
- ◆ Reactions from flu shots: 93,000.
- ◆ Number of deaths following the flu shot: 1,080.
- ◆ Serious adverse reactions from the MMR (measles, mumps, rubella) vaccine since 1990: 6,962.
- ◆ Number of deaths from measles since 2004: 0.
- ◆ Serious adverse events from the Gardasil vaccine alone: 5,418.
- ◆ From 1990–2010, hospitalization rates after the number of vaccines was increased from 2 to 8: 23.5%. Mortality rates after same increase: 5.5%.²¹⁶



Money / Politics

- ◆ Total compensation to vaccine-injured children and adults 1989–2015: \$3,100,000,000.00 (3 billion, 100 million dollars).
- ◆ Percentage of claimants compensated: 20%.
- ◆ Income from vaccines, 2013 only: \$24,000,000,000.00 (24 billion dollars).
- ◆ Projected income from vaccines in the year 2025: 100,000,000,000.00 (100 billion dollars).
- ◆ Projected yearly increase in vaccine sales needed to reach projected income goal by 2025: 12.63%.
- ◆ Number of new vaccines in development (as of 2015): 271.
- ◆ Number of vaccines a child can be safely given in one day, according to Paul Offit, multi-millionaire vaccine inventor: 10,000.
- ◆ Number of current vaccines proven effective through legitimate scientific studies: 0.

—except where indicated in endnote,
data is adapted and compiled from
"WAPF Vaccination Index,"

Wise Traditions, Volume 16, Number 2, Summer 2015

History of Suppression: the Thimerosal-Autism Link

The aim of protecting the whole of society from disease through vaccination of children justified the unavoidable casualties. And making this damage public would only dissuade people from giving their children injections. . . . In truth, parents were hard-pressed to know what they were actually doing when they vaccinated their children. Vaccine monographs did not disclose complete ingredients. As ever, parents relied on doctors to explain the procedure perhaps not realizing that in the event of an adverse reaction, they and their child would get abandoned by the system they trusted and branded criminals should they ever stop vaccinating.

. . . The epidemic rise of autism parallels that of the peanut allergy in the period of its acceleration and gender ratio differences in children—more boys than girls are affected by both conditions. Many autistic children also have severe food allergies. When a link was made between vaccination and autism, the US government, vaccine makers, and the media attempted to squash it. . . .

In 2000, a confidential report *Thimerosal VSD Study, Phase I* (2000) from the CDC linked the rise in autism to a mercury based antifungal vaccine ingredient, thimerosal. Eli Lilly and Company . . . developed thimerosal in the 1930s. An emergency meeting held at the Simpsonwood Retreat Center in Georgia was called by the CDC and attended by fifty-two vaccine experts and pharmaceutical company representatives. A transcript of the meeting leaked to the Internet revealed how frightened doctors were by this government revelation. Here was the basis for ruinous class action lawsuits and serious loss of public confidence in vaccination.

While the thimerosal report ultimately was made available, its original supporting data was lost. At the same time, the database of approximately one hundred thousand children on which the report was based was given to a private company beyond the reach of the Freedom of Information Act.

In 2000, the maker of thimerosal, Eli Lilly and Company, was shielded from prosecution by parents of autistic children when House Majority Leader Dick Arney put the “Eli Lilly Protection Act” into the Homeland Security Act. When this act was repealed in 2004, US Senate Majority Leader Bill Frist in 2008 added a provision to an antiterrorism bill that denied compensation to children suffering from vaccine-related brain disorders. In a post-9/11 world, Frist explained, US companies needed protection from cumbersome and costly lawsuits so that they were free to produce vaccines in the event of a bioterrorist attack.

Despite government assurance that thimerosal would be phased out of childhood vaccines, doing so would prove difficult. . . . The public was led to believe that thimerosal had been removed from the pediatric schedule. A statement to this effect was produced by the California Department of Developmental Services and supported by the American Academy of Family Physicians. In the same statement, however, the state government admitted that trace levels existed in all vaccines and that some childhood vaccines contained original levels. They did not indicate which ones. . . . all childhood vaccines in 2009 still contained thimerosal, to one degree or another.

Since the rate of autism continued to rise despite the erroneous claim that the thimerosal was gone, the media attempted to close the case. A *Time* magazine article gave the “truth” about vaccination accusing all parents who questioned it of putting “the rest of us at risk.” The simplistic “us-versus-them” fiction boiled the discussion down into an easy-to-understand concept of personal belief versus public health. This tactic successfully drew attention away from the seminal issue of disease management and adverse events to target and ostracize a new fictitious enemy—a minority of concerned parents who believed their children had been damaged by injections.

No longer patients or even medical consumers, the parents who chose not to vaccinate their children were painted as dangerous and criminally minded people. . . .

The “us-versus-them” dialectic also drew attention away from the money. Vaccination was less about medicine than it was about economics. Pharmaceutical company CEOs must, by law, protect their shareholders first. If there was damage, they would not and could not admit it unless it was in the best interest of their company. Case in point, one pharmaceutical company CEO quoted in a 2006 article reflected that the problem with most adjuvanted vaccines was that their potency caused allergies. While his company’s brand was not as potent as others, it was safer. This unusually frank disclosure that his product caused fewer allergies was used to sell his company’s products and enhance shareholder value.

Government mass vaccinates populations to protect the economy. . . . The massive rise in chronic degenerative conditions in children has made money for investors in pharmaceutical stocks, as well.

—excerpted from Heather Fraser,
*The Peanut Allergy Epidemic:
What’s Causing It and How To Stop It* (2011)

Dangerous Chemicals

There are many chemicals in vaccines besides the heavy metals. Chemicals are so abundant in these formulas, that their levels are greater than that of the pathogens.

- ◆ *Formaldehyde (also known as formalin)*. This preservative is used to embalm corpses. The National Institute of Occupational Safety and Health (NIOSH) states that formaldehyde is “immediately dangerous to life or health” at 10 ppm (parts per million).²¹⁷ For the air inside new buildings that off-gas, the United States Environmental Protection Agency (EPA) sets an even lower limit of 0.016 ppm of formaldehyde. In contrast, flu vaccines range from 25 to 100 mcg (micrograms) per dose—comparable to 50 to 200 ppm per dose. The Material Safety Data Sheet for formaldehyde notes that it’s carcinogenic, mutagenic (able to cause genetic mutations), and possibly teratogenic (interfering with the growth and development of an embryo or fetus).
- ◆ *Gelatin*. Gelatin is a collagen-rich protein obtained by boiling bones, skin, tendons and/or ligaments, usually from cows or pigs. When eaten, gelatin is normally a healthful food (and truthfully marketed as able to help strengthen nails and hair). However, people may develop an allergy to gelatin if it’s injected with a vaccine formula instead of eaten as part of a meal. In the digestive tract, gelatin is processed correctly by the body. When injected, gelatin understandably causes the body to perceive it as a foreign invader to be eliminated. The growing epidemic of food allergies and asthma in children is partly due to the gelatin in vaccines.
- ◆ *Monosodium Glutamate (MSG)*. Commonly known as a flavor enhancer, MSG is actually a poison that in some ways mimics the effects of toxic (heavy) metals. MSG can cause abnormal blood pressure, muscle and joint pain, skin rashes, and gastrointestinal and respiratory difficulties. A neurotoxin, monosodium glutamate also damages the brain and nervous system—which is why it causes so many neurological symptoms including dizziness, migraines, insomnia, hyperactivity, mental confusion, anxiety, and depression. MSG poisoning is sometimes misdiagnosed as neurological disorders, ranging from Alzheimer’s to Amyotrophic Lateral Sclerosis (ALS, also called Lou Gehrig’s disease).
- ◆ *Phenoxyethanol*. A potent bactericide and yeast killer, this alcohol-related preservative (part of the glycol ether group) is used in perfumes, insect repellents, dyes and inks, and pharmaceuticals. The EPA’s Material Safety Data Sheets on other glycol ethers indicate that they cause genetic and chromosomal mutations, and interfere with reproduction (inducing

testicular atrophy). The FDA warns that this chemical is toxic to infants via ingestion, and “can depress the central nervous system and may cause vomiting and diarrhea.”²¹⁸ But it still allows this chemical in vaccines.

- ◆ *Polysorbate 80*. This common preservative can cause *anaphylaxis* (also known as *anaphylactic shock*)—an instant, severe, life-threatening allergic reaction involving the immune cells. Symptoms include abnormal levels of swelling that can obstruct tissues including those of the heart (leading to low blood pressure and cardiac arrest), the throat (leading to obstruction in the air passages and suffocation), and the brain (leading to a coma and eventual death). Polysorbate 80 has been used to help drugs cross the blood brain barrier; so it will also bring any vaccine pathogens into the brain. If thimerosal is in the vaccine, the Polysorbate 80 will facilitate the passage of mercury into the brain as well.
- ◆ *Triton X-100 / benzyl-polyethylene glycol tert-octylphenyl ether / oxtoxynol-10*. A detergent common in influenza inoculations. It’s used to disintegrate the virus particles and other ingredients, and prevent them from clumping or aggregating. The Material Safety Data Sheet for this chemical states that it may be harmful if swallowed or absorbed through the skin (because it gets into the bloodstream, just as it does via injection). Triton X-100 also disrupts the mitochondria (fuel burning units of the cells). Interestingly, autism and other neurodegenerative diseases are now being labeled as mitochondrial disorders.

Adjuvants, the Secret Ingredients

The main ingredient in vaccines that people usually think of is the pathogen(s) against which they’re being inoculated, and perhaps secondarily, a preservative such as thimerosal. But all vaccines contain other ingredients, some of which are truly secret, because no laws exist requiring vaccine manufacturers to disclose everything that’s in their formulas. These unlabeled substances have negatively impacted inoculated people’s lives, especially because they have no way of protecting themselves from—or preparing for possible adverse reactions to—secret ingredients.

Many unlabeled ingredients are used as adjuvants. *Adjuvant* (from the Latin word *adjuvare*, “to aid”) is a pharmacological term for a substance that modifies the effects of another material. Adjuvants are put into inoculation formulas to elicit an abnormally intense antibody response so that smaller amounts of pathogen material can be used. In addition to stimulating a stronger-than-usual immune response, sometimes an adjuvant will

cause the body to produce higher levels of one type of immune cell. For example, there may be more T cells than B cells. The CDC reassures us that adjuvants are safe, that they “help vaccines work better. . . . Vaccines often must be made with adjuvants to ensure [that] the body produces an immune response strong enough to protect the patient from the germ he or she is being vaccinated against.”²¹⁹

The most common adjuvants are aluminum hydroxide, thimerosal, paraffin (mineral) oil, egg whites, squalene (a compound found in olive and shark oils), peanut oil, and cytokines. *Cytokines* are small proteins that are naturally produced by the body, although the ones in vaccines are from external biological sources. Cytokines—normally released by cells (including immune cells) to communicate with each other—play a key role in how the body responds to infection, inflammation and trauma, steering immune cells to where they are needed. The problem is, as holistic and conventional doctors well know, too many cytokines cause major inflammation, and are prevalent in chronic degenerative conditions. Moreover, constant high levels of inflammation can lead to infection, because the swelling keeps the lymph fluid contained and thus stagnant. With insufficient circulation, wastes are not flushed from an area, providing a breeding ground for harmful microorganisms.

What happens when adjuvants made from common foods are included in vaccine formulas and injected into muscles? Because they’re injected, and injected with microbial material, *people develop allergies to the foods*. Sometimes, these allergies are so severe that they cause anaphylactic shock in susceptible individuals. *Anaphylactic shock* is a severe immune malfunction that causes severe skin reactions such as hives and unbearable itching, as well as nausea and vomiting. But the person may also suffer from swelling of the cardiovascular system and respiratory passages, which leads to heart failure, labored breathing, loss of consciousness, and even death.

For our first example, let’s address the allergy to peanuts. Prior to the use of peanut oil as an adjuvant in 1964, peanut allergies were relatively rare. Note that when I say “allergy,” I refer to more than a simple food intolerance or sensitivity: I am talking about an exaggerated, life-threatening reaction to proteins. Heather Fraser, author of *The Peanut Allergy Epidemic*, cites statistics on immune-mediated responses produced by immunoglobulins epsilon (IgE), which employs a biochemical cascade to attack the invader peanuts.

In 1997, there were about 290,000 peanut-allergic American children, a figure that doubled by 2002. In those five years, an average of 58,000 children each year became allergic to peanuts.

By 2008, the number topped one million US children. . . . it is clear through statistics, scientific inquiry, and simple anecdotal evidence (the parental refrain “no one had a peanut allergy when I was at school”) that the prevalence of the allergy among children has increased at an *alarming* rate. This development has altered the fabric of societies now forced to accommodate life-threatening allergies to a common food.²²⁰

After considering all possible reasons for the increase in peanut allergies, Fraser concludes:

Functionally, there are a limited number of ways in which a person can become anaphylactic to any substance—through ingestion, inhalation, through broken skin, and injection. And historically . . . [using the example of many people developing serum sickness as a result of penicillin injections] the only mechanism [that could be] implicated in sudden mass allergy [to peanuts] . . . was injection. Further, this period of allergy acceleration in children correlated to an unprecedented series of political, social, legal, and economic reforms directed at [increasing the number and prevalence of] vaccinations.²²¹

This conclusion is bolstered by a study, conducted in 2006 by Devi Lockwood, titled “Peanut Allergies and Vaccinations.”²²² Comparing matched groups of vaccinated and unvaccinated school-aged children, Lockwood discovered that peanut allergy was virtually nonexistent in Amish children. Not coincidentally, the Amish do not believe in vaccinations. Lockwood then researched other groups, and using statistical analysis, found that the lower rate of inoculations corresponded to fewer (or no) peanut allergies, while the higher rate of inoculations corresponded to a significant rise in peanut allergies.

In addition to stimulating the immune cells to become hypervigilant, peanut oil, which coats the vaccine antigens, slows their release into the tissues and bloodstream. The pharmaceutical companies like to use it because it stimulates the body to produce up to thirteen times more antibodies than other materials. Furthermore, the levels remain high for sustained periods, and the oil is cheap.

The authors of “Vaccine adjuvants revisited,” which appeared in a 2007 issue of *ScienceDirect*, warned:

The benefits of adjuvant incorporation into a vaccine need to be balanced against the risk of adverse side effects. Local reactions include pain, local inflammation, swelling, injection site necrosis [cell death], lymphadenopathy

[lymph node swelling], granulomas [abnormal inflammation and malfunction of immune cells], ulcers and the generation of sterile abscesses. Systemic reactions include nausea, fever, adjuvant arthritis, uveitis [eye inflammation], eosinophilia [abnormal increase in eosinophil granulocytes, a type of white blood cell], allergy, anaphylaxis, organ specific toxicity and immunotoxicity, i.e. cytokines release, immunosuppression or autoimmune diseases. Unfortunately, potent adjuvant action is often correlated with increased toxicity.”²²³

Eggs have also become a common allergen in American children. Normally, eggs are easy to digest and are rightly regarded as perfect protein. Common foods caused very few problems until scientists began including them in vaccines—either as growth media for culturing pathogens, or as adjuvants. Fraser writes that “French physiologist François Magendie (1783–1855) found that animals sensitized to egg white by injection went into shock and died after a subsequent injection.” At the start of the 20th century, “such reactions began to appear with startling frequency, particularly in children. These reactions were produced following the application of a new technology, the hypodermic syringe, to administer antitoxin sera in the revolutionary treatment called vaccination.”²²⁴

Because of adjuvants, an allergy to one substance often causes *cross-reactivity*, which can occur between apparently dissimilar proteins. It explains why, writes Fraser, “a person who is allergic to peanuts, [which are] legumes like soy and castor beans, may also react to nuts or citrus seeds, which belong to different plant families—their proteins have similar molecular weights and structures.”²²⁵

A similar situation has occurred with gelatin, which ordinarily is a nutritious food and is often added to other foods as a thickener. Gelatin allergies appeared in record numbers when drug companies began using it in vaccines along with aluminum, which sensitized people to the gelatin proteins. Negative reactions were so severe that the Japanese removed gelatin from their vaccine formulas.

Injecting normally edible proteins prevents the body from transforming them via the digestive tract. Instead, they become allergenic, traveling throughout the bloodstream and irritating the tissues. (This is what happens in a case of leaky gut, with incomplete digestion.)

Inserts that accompany vaccines warn the consumer to tell the doctor if there’s a life-threatening allergic reaction to any component of the formula. But most consumers aren’t given the inserts to read. Some are even dismissed by their doctors if they ask to read the literature. If they did, how many would allow their child to be inoculated?

Synagogue Bans Unvaccinated Children

My synagogue [in Michigan] decided that if a child does not have all of his/her vaccines, they cannot attend their preschool. . . .

I told [a Temple] employee that I could not be a member of a Temple that supported such draconian policies. The employee asked me, “Why does this affect you, your kids are older?” I stated that I do care because my patients have children and I do not feel the present vaccine program is safe . . . At this point, the executive director asked if I would meet with the Rabbi to discuss my concerns. . . .

My wife Allison and I met with [the] Rabbi . . . I told the Rabbi that following the recommended vaccine schedule exposes children to toxic doses of mercury, aluminum, and formaldehyde. Furthermore, I told him that [the] Temple’s interest should be educating . . . not mandating or opposing medical therapies. “I don’t think [this] Temple . . . should be making medical decisions for me or my children,” I stated.

The Rabbi stated that vaccines have been proven safe. . . . I said that thimerosal has never been proven to be safe to inject in any living being and that it never would be shown to be safe as it contains 50% mercury by weight. Mercury is one of the most toxic substances known . . . I informed the Rabbi that the flu vaccine contains 25,000 times the upper limit of mercury in drinking water as established by the U.S. Environmental Protection Agency.

Allison asked the Rabbi, “Why should you care whether my kids are vaccinated? If you believe in vaccines, then vaccinate your child and you don’t have to worry about my children.” . . . He did not answer.

The Rabbi said the science was settled on vaccines; they are safe and effective. I told him that simply was not true. I reminded him that the AMA and most doctors said that cigarettes did not cause lung cancer for many years. I told him that doctors said DES was safe to give to pregnant women and now, generations later, children are still being born with birth defects due to DES. I [also] reminded the Rabbi of the story of Dr. Semmelweis. In the 19th century, childbirth was associated with a high maternal mortality rate. Dr. Semmelweis proposed that the practice of a doctor washing their hands before delivering a baby reduced the mortality rate by 90%. He published his results. For that crime, [he] was thrown out the medical society and not allowed to practice medicine. . . .

If your Temple, Church, or Mosque mandates toxic vaccines, tell them you disagree and go somewhere else. It is time to get off our asses and make a stand.

—excerpted from Dr. David Brownstein

June 17, 2015

blog.drbrownstein.com/

banned-from-religious-school-for-not-vaccinating-oy-vey

The Rabies Vaccine

What Is Rabies?

Rabies, caused by the *Lyssavirus*, is known as a dangerous disease of the central nervous system that's reported to kill 55,000 people a year. The disease originated in wild and domesticated warm-blooded, fur bearing animals (bats, racoons, rabbits, coyotes, dogs, cats, horses, and other mammals). However, rabies can also affect humans who are bitten or scratched by a rabid animal, or exposed to its saliva.

The virus migrates from where it has entered the body (through a bite or infected saliva on the skin or fur), into the spinal cord and brain—where it causes inflammation (*acute encephalomyelitis*)—and then spreads to the eyes, nerve endings of the skin, and mucous membranes. As the brain is involved, both voluntary and involuntary functions are affected. Symptoms are similar in humans and animals: fever and muscle weakness, followed by anxiety and confusion, excess salivation, problems swallowing, agitation in humans and aggression in animals, respiratory failure, cardiac arrest, sometimes paralysis, and delirium, coma, and—with few exceptions, we're told—death. Symptoms can take two weeks to over one year to manifest, the average being 40 days.

The Rabies Vaccine (Shot), In Brief

Rabies Vaccine Defined. "The terms "rabies vaccine" and "rabies shot" are used interchangeably. They consist of materials intended to prevent the onset of rabies in the person or animal host. Injections against rabies are used in two situations: as a preventive vaccine, before someone has been exposed to the virus; and as a treatment shot, after someone has been exposed. The number of injections received in each situation varies.

The first rabies vaccine ingredients consisted of brain tissue from infected animals (known as the *Semple vaccine*). In developed countries, modern vaccines are sometimes produced from human or chicken embryo cells. Most inoculations, though, are made with the more plentiful brain tissue, and are most often administered in Africa, South America, and Asia. For post-exposure treatments *only*, *immune globulin* (also called *gamma globulin* or *immunoglobulin*), derived from blood plasma of rabies-infected humans, is used in addition to the brain tissue because of the antibodies it contains.

Modern medicine has no test to detect the early stages of a rabies infection. Therefore, doctors typically recommend that if a human is bitten by an animal suspected to be rabid, he or she should receive a series of treatment shots to ensure that serious symptoms do not appear.

Procedure for Humans. Human beings are inoculated both before and after exposure. After exposure, shots made of gamma globulin are injected as well as shots made from human or chick tissue.

Procedure for Animals. In most parts of the United States, the law requires owners to vaccinate pets (dogs, cats and ferrets) and livestock (cattle, sheep and horses). The Centers for Disease Control recommends that if an unvaccinated pet or livestock animal is suspected of being infected, it should be killed immediately. If the owner objects, the animal must be quarantined for six months to see if the disease appears. If symptoms do manifest, the animal is then killed. If a *pre-exposure* vaccinated animal is bitten by another animal suspected to be rabid, additional shots and quarantine are still required. This is because it's widely acknowledged that even "preventively" vaccinating an animal does not guarantee complete protection against rabies if it's exposed to the virus later.

Effects of the Rabies Vaccine

Highlights. Rabies shots are very painful. They can, and usually do, induce many symptoms reminiscent of rabies itself: swelling, headache, muscle pain, nausea and dizziness, with later symptoms of hives, fever, difficulty breathing, rapid heartbeat, and paralysis. This is just the beginning, however. The last page of this Insert provides a small sample of articles (all published in respected medical journals) whose titles indicate additional severe damage to humans and animals who received the rabies vaccine. For now, let's look at some other details.

What the Rabies Vaccine Actually Does (to Humans). There's quite a bit of research on the damage to human beings from the rabies vaccine. Studies have been published in (among other languages) Chinese, French, German, Hungarian, Italian, Polish, Portuguese, Russian, and Turkish. As long ago as 1975,²²⁶ and later in 1984²²⁷ and 1990,²²⁸ the *Journal of the Neurological Sciences* published studies, all of which showed similar damning results. The damage included inflammation of the brain and nerve tissue, infections of the central nervous system, and degeneration of the spinal cord—which itself caused a variety of symptoms, including seizures and partial paralysis. In one study, 14 of the vaccine recipients died.

In 1983, "Delayed onset of post-rabies vaccination encephalitis" appeared in *Annals of Neurology*. The authors wrote: "A 31-year-old veterinarian developed seizures, left [-sided] hemiparesis [weakness], loss of memory, and behavioral disorders 5 months after intensive antirabies vaccination . . . [He also grew a]

mass that extended to the left frontal lobe through the corpus callosum. Brain biopsy showed foci [differently-appearing cells] of primary demyelination [nerve cell sheath destruction] largely confined to the white matter. The lesions were characteristic of the demyelinating encephalomyelitis that follows treatment with certain vaccines against rabies. The hemiplegia improved, but seizures, memory impairment, and abnormal behavior persisted.”²²⁹

A 2003 article, “Neurological Complications of Rabies Vaccines,” stated: “Developing countries continue to use the neural tissue rabies vaccines despite the high frequency of serious neurological complications such as encephalitis, encephalomyelitis, myeloradiculitis and polyradiculitis. . . . The pathogenesis involves demyelination occurring due to an autoimmune reaction against myelin, triggered by the vaccine. All of our cases demonstrated lesions of demyelination in various parts of the nervous system.”²³⁰

In 2008, the well-known medical term, ADEM, was discussed in “Post-vaccination encephalomyelitis: Literature review and illustrative case.” An acronym for *Acute Disseminated Encephalomyelitis*, ADEM is “an inflammatory demyelinating disease of the central nervous system . . . associated with several vaccines such as rabies, diphtheria–tetanus–polio, smallpox, measles, mumps, rubella, Japanese B encephalitis, pertussis, influenza, hepatitis B, and the Hog vaccine. We review ADEM with particular emphasis on vaccination as the precipitating factor.”²³¹ A whopping 35% of the study subjects developed Multiple Sclerosis after being inoculated, and one man suffered optic nerve atrophy (four weeks after receiving an influenza shot.) Not everyone recovered. The vaccines contained both “inactivated” and “live” viruses. The article, “Possible Interactions Between Rabies Vaccination and a Progressive Degenerative CNS Disease,” referred to many cases of a Multiple Sclerosis-like condition appearing from 2 to 20 years after subjects received a presumably preventive rabies vaccine (although it can also take only weeks for symptoms to appear). The authors described “similarities between postvaccinal encephalomyelitis and the progressive form of multiple sclerosis.”²³²

What about effects from inoculation material that’s *not* made from brain tissue? Gamma globulin by itself can increase the risk of blood clots. As described in “Side-effects of intravenous immune globulins,” from a 1994 edition of *Clinical and Experimental Immunology*, more effects include “headache, myalgia [muscle ache], fever, chills, low back pain, nausea and/or vomiting; vasomotor and cardiovascular manifestations marked by changes in blood pressure and tachycardia—these may be related to occasional reports of shortness of breath and chest tightness. These reactions are generally

considered to be due to aggregated immunoglobulin molecules which cause the complement system to be activated. They may be due to antigen-antibody reactions as well . . .”²³³ In other words, boosting the immune cells into overdrive—which is what vaccines are designed to do—produces hyperactive responses in the entire body. This hyperactivity has also been recorded as anaphylactic reactions, neurological complications, kidney failure, and fatal strokes.

What the Rabies Vaccine Actually Does (to Dogs and Other Animals). In the United States, rabies vaccines for pets has spawned a very lucrative business. Each shot costs about a dollar to make, but the markup ranges from ten to one hundred times that amount (and there’s an even greater markup during the first year of inoculation). In the US, if dog owners don’t comply with a law that forces them to regularly vaccinate their (registered) pets, they’re fined, and the animal might be taken from them. Such laws ensure a steady income for vets and drug companies. It’s a rare veterinarian who’s willing to work with an unvaccinated animal.

Based on the number of published studies on the “side” effects of rabies vaccines, it’s clear—to both the drug industry and physicians—that the rabies vaccine causes significant increase of encephalomyelitis (brain inflammation), the eroding of myelin from the nerve sheaths, and related autoimmune inflammatory diseases (to name just a few conditions). The damage suffered by rabies-vaccinated pets is extensive, and almost identical to the harm experienced by humans. Human owners and veterinarians commonly notice that the animals suffer joint pain, muscle aches, diarrhea, vomiting, skin eruptions, and convulsions. Sometimes they die.

Rabies-vaccinated dogs frequently undergo personality changes. They may become excessively reactive, phobic, and hyper-aggressive. Or they might become timid. They exhibit behaviors that most of us believe are “normal” (albeit neurotic) because we don’t have experience with dogs who *haven’t* been vaccinated. There may be excessive licking, violent itching with no apparent cause, or reverse sneezing or gagging (spasms of the larynx). Many owners notice obsessive-compulsive behaviors such as tail chasing, fly biting, or insisting on fetching a ball to the point of exhaustion. The animal may also bark, growl or lunge, even committing unprovoked attacks (reminiscent of a rabid dog). Veterinarian Richard Pitcairn calls it the rabies *miasm*, which he defines as “a chronic disturbance unrecognized, except as it’s manifested by acute flareups of what seem to be individual diseases.” The dogs “become more aggressive, more likely to bite, more nervous and suspicious. They may also have a tendency to run away, to wander, and also sometimes to have excessive saliva, and to tear things up. It’s not that they

have rabies, but they seem to express some symptoms of the disease from exposure to the vaccine.”²³⁴ It’s not surprising that formerly joyful, affectionate pets are now irritable, fearful and snappy: the brain and nerve tissues are constantly being irritated due to chronic infection and inflammation, which naturally leads to a hypersensitivity of all the senses. Might the animals also be cranky because they’re in pain? Essentially, the pet is suffering from a sub-clinical case of rabies!

The allopathic veterinary community is well aware of the damage and even fatalities that rabies vaccines can cause. In 2008, “Postmarketing surveillance of rabies vaccines for dogs to evaluate safety and efficacy,” which appeared in the *Journal of the American Veterinary Medical Association*, analyzed such data from reports from April 1, 2004, through March 31, 2007. Information was received from “multiple sources,” which included reports that pet owners voluntarily sent to the Center for Veterinary Biologics (CVB). Note that not all pet owners report vaccine injury because they aren’t aware that injuries might be (or are) vaccine-related. Or, they don’t know who to contact. Or, if the animal becomes very sick or dies, they might feel too dispirited to report, even if they knew that the damage was caused by vaccines and knew where to send their findings. Here’s a summary of *reported* damage, from the highest to the lowest percentage. Note that death is not the lowest.

- ◆ Vomiting: 28.1%
- ◆ Facial swelling: 26.3%
- ◆ Injection site swelling or lump: 19.4%
- ◆ Lethargy: 12.0%
- ◆ Urticaria (hives): 10.1%
- ◆ Circulatory shock: 8.3%
- ◆ Injection site pain: 7.4%
- ◆ Pruritis (anal itching): 7.4%
- ◆ Injection site alopecia or hair loss: 6.9%
- ◆ Lack of consciousness: 5.5%
- ◆ Death: 5.5%
- ◆ Diarrhea: 4.6%
- ◆ Fever: 4.1%
- ◆ Anaphylaxis: 2.8%
- ◆ Ataxias (lack of muscle coordination): 2.8%
- ◆ Lameness: 2.8%
- ◆ General signs of pain: 2.3%
- ◆ Hyperactivity: 2.3%
- ◆ Injection site scab or crust: 2.3%
- ◆ Muscle tremor: 2.3%
- ◆ Tachycardia (rapid heartbeat): 2.3%
- ◆ Thrombocytopenia (low blood platelet count): 2.3%

The article authors remark, “Rabies vaccines are the most common group of biological products identified in adverse event reports received by the CVB.”²³⁵

Dogs are injured even more by being inoculated before eight weeks of age, when their immune response is weak and immature. Most are injected many times. A 6-pound Chihuahua receives the same amount as a 60-pound Golden Retriever. One widely-used veterinary textbook, *Kirk’s Current Veterinary Therapy*, bluntly states that annual revaccinations “lack scientific validity or verification. . . . There is no immunological requirement for annual vaccinations. Immunity to viruses persists for years or for the life of the animal.”²³⁶ It’s even questionable whether any vaccines are warranted. This will be discussed shortly.

The public is continually told that inoculating the animal will make it immune to the rabies virus. If the animal then bites someone, it is rationalized, there’s no danger that the bite recipient will contract rabies, because there won’t be any infection to spread. But, as some of the previously cited research explicitly states—and as even many pro-vaccine organizations know—this is an outright lie.

The Problem (?) Is, Not Everyone Dies From Rabies

Many variables determine how quickly (and whether or not) someone will succumb to an infection: the numbers of harmful microbes that are transmitted, how well the immune response is functioning, the severity and location of the bite, and—in the case of rabies—the strain of pathogen. (Dogs and bats carry slightly different varieties of the *Lyssavirus*.) If the rabies virus is introduced at a limb instead of at the face, neck, or other area close to the spine, the infection will travel to the brain more slowly, thus offering more time, and hence more of a chance, for a successful treatment.

Some people bitten by rabid animals can live normally even if they do not receive treatment. In the last decade, the mainstream press has reported the miracle of people who exceeded doctors’ expectations by surviving rabies. For instance, in early 2009, a 17-year-old girl was admitted to a Texas hospital and diagnosed with rabies antibodies in her blood, but no viral RNA in her saliva or tissues. She was released in good health. Some doctors later disputed that she ever had rabies; most believe that infected individuals always die. But it’s worth noting that because the girl was a runaway, she’d been camping in a cave—a place known to harbor bats, which can carry rabies. The girl had a strong immune response, which accounted for the high levels of rabies antibodies but no actual *Lyssavirus* in her system.

We can also learn a great deal by examining entire groups of people. An 2012 article, “Evidence of Rabies Virus Exposure among Humans in the Peruvian Amazon,”

describes resistance to the rabies virus among people living in the Amazon rainforest in Peru, a region heavily populated by vampire bats. All of the survivors are from communities that lack formal roads and adequate housing. One village is a two-hour boat ride from the nearest health clinic, and the other village is six hours from the nearest doctor. The authors write: "There is ample evidence of frequent depredation [damage] by vampire bats on humans and livestock . . . Risk factors for bat exposure included [people of an] age less than or equal to 25 years and owning animals that had been bitten by bats. Rabies virus neutralizing antibodies (rVNAs) were detected in 11% (7 of 63) of human sera [fluids] tested."²³⁷ Simply stated, about 1 in 7 people in these Peruvian Amazon villages are resistant to rabies.

Skeptics might dismiss this study because the bite from a vampire bat is mild compared to a bite from a dog or racoon. But even this advantage (which some might use to discredit the study) provides valuable clues. Dr. Charles Rupprecht, a co-author of the study, states that the blood of other human populations—such as 1% of racoon hunters—also tests positive for rabies antibodies. Dr. Amy Gilbert, another co-author of the study, points out that non-fatal exposure to the *Lyssavirus* may occur more often than people expect, because "unless people have clinical symptoms of the disease, they may not go to the hospital or clinic. . . . We all still agree that nearly everyone who is found to be experiencing clinical symptoms of rabies dies. . . . But we may be missing cases from isolated high-risk areas where people are exposed to rabies virus and, for whatever reason, they don't develop disease."²³⁸ Gilbert's "for whatever reason" is what the natural health field has always understood: that prolonged, relatively mild exposure strengthens the immune response.

Animal resistance follows a similar pattern. Henry Wilde, a physician in Bangkok, Thailand, says: "There are survivors [of rabies]. Fourteen percent of dogs survive. Bats survive."²³⁹ *New Scientist* agrees: "Researchers have known for years that some animals in the wild and in the lab survive rabies all on their own. . . . Rabies may not be the invincible killer we thought."²⁴⁰ *The presence of antibodies indicates exposure to the virus without one necessarily becoming seriously ill.*

It's difficult to accurately estimate how many people have contracted rabies and lived. Mainstream media, which feeds on sensationalism, likes to tell of the few heroic survivors (and the doctors who save them). But if people who are routinely exposed—and calmly continue on with their lives—aren't generally investigated or reported, how would we even know they exist?

What about rabies death statistics? Shouldn't all dogs be routinely vaccinated, anyway—just in case? To get a different perspective, let's look at some figures

from *Dogs Naturally* magazine. The author compares casualties from rabies to other life-threatening events. Here are various causes of death in the USA, on an average yearly basis:

- ◆ Number of people killed by lightning strikes: 90.
- ◆ Deaths from dog attacks (not rabies-related): 15–25.
- ◆ Deathly accidents from deer on roads: 200.
- ◆ Deaths from car accidents: 27,000.
- ◆ Death by murder from men (women who murder are only one-third as plentiful as men): 32,000.
- ◆ Death by influenza or pneumonia, in people older than 91 years: 3,300

Now here's an overview of all the known deaths from rabies for one year, in the US and Europe combined:

- ◆ 5 deaths from rabies, but none from dog bites.

*The fact is, there have been no rabies deaths due to a dog bite in the last 30 years.*²⁴¹ Given the harm of the rabies vaccine, is it really necessary to vaccinate dogs?

The Problem of Diagnosing Rabies

With so many negative effects from the rabies vaccine, it's a good idea to find out if a human or animal even *has* rabies before administering an inoculation that itself could cause irreparable damage or even prove fatal. How is rabies diagnosed?

Researchers who have examined the brains, spinal nerves, and nerve cell plasma of rabies-infected individuals have discovered small biological structures called *Negri corpuscles* (or *Negri bodies*). They state that these structures prove the presence of the rabies virus. But they also claim that an absence of Negri bodies does *not* necessarily mean the absence of rabies! How can both be true? Other physicians have discovered that Negri bodies appear in individuals who are *not* diagnosed with rabies. Still other scientists state that Negri bodies are indistinguishable from the *Lentz-Sinigallia* corpuscle, which exists in dogs with distemper. In the 1960s, American veterinarian John A. McLaughlin performed autopsies on dogs thought to have died of rabies, and found no evidence at all of Negri corpuscles. He wondered if this infection, which everyone called rabies, was actually another disease.

Ultimately, this double talk about the rabies diagnosis makes some wonder whether the disease even exists.

In some cases, identifying the pathogen is helpful—even necessary—so the infected individual can be properly treated. However, many natural substances are antiviral, antibacterial *and* antifungal, and at the same time they support immunity. So you don't need to know exactly what pathogen you're treating.

The Problem of Treating Rabies

Conventional medicine continually reminds us that rabies has no cure—hence, the repeated need for pre-exposure vaccines. But new research from the US (now being duplicated in several countries) says otherwise. The brain, says Dr. Bernhard Dietzschold, *can* recover, even after being exposed to the *Lyssavirus*! “The dogma has always been that when the rabies virus reaches the brain there is no hope for recovery. . . . We have shown in animal models that this is not right—the immune system can clear the virus from the central nervous system.”²⁴² This ability was reported in 2009, in “Effective preexposure and postexposure prophylaxis of rabies with a highly attenuated recombinant rabies virus.”²⁴³ The mice in the study were able to eliminate rabies from the brain, spinal cord and nerves for two reasons. One, different strains of rabies appear to affect the body differently. Virulent strains of rabies hide from the immune cells, but weaker strains cannot—probably because they contain more *glycoproteins*, tiny surface molecules that make them more visible to the immune B cells and T cells, and allow antibodies to adhere to them. Two, conventional pre- and post-infection rabies vaccines for people use small bits of dead viruses, which cause harmful inflammation and can’t help the body clear the *Lyssavirus* from the central nervous system. When Dietzschold and his colleague D. Craig Hooper gave infected mice a *weaker, live strain of the rabies virus*, the mice were able to eliminate all of the infection:

Because of their ability to induce strong innate and adaptive immune responses capable of clearing the infection from the CNS [central nervous system] after a single immunization, live-attenuated rabies virus (RV) vaccines could be particularly useful not only for the global eradication of canine rabies *but also for late-stage rabies postexposure prophylaxis of humans*. To overcome concerns regarding the safety of live-attenuated RV vaccines, we developed the highly attenuated triple RV G [rabies virus glycoprotein] variant . . . [which] is completely nonpathogenic after intracranial infection of mice that are either developmentally immunocompromised . . . or have inherited deficits in immune function . . . In contrast to wildlife RVs, most attenuated RV strains [created in the lab] replicate very quickly and express large amounts of G [glycoproteins], thereby inducing strong adaptive immune responses that result in virus clearance. These properties provide the basis for the use of attenuated RV strains for the pre- and PEP [postexposure prophylaxis] of rabies. [emphasis added]²⁴⁴

A Proposed Better Rabies Vaccine (Maybe)

By definition, vaccines force the immune cells to exceed normal and healthy limits, thus sabotaging their proper function. Pieces of pathogens are counterproductive to the presumed intent of vaccines. So are adjuvants (such as heavy metals and mineral oil). They don’t belong in the tissues and were never meant to be injected. Acting like poisons, they don’t allow immune cells to *safely* recognize and tag a pathogen for elimination.

Modern medicine likes to manipulate and alter the body’s natural responses, rather than encourage its innate ability to heal. Most physicians don’t respect (if indeed they ever recognized) that the body is generally capable of protecting itself against infectious disease as long as it has the raw materials that it needs, and has not been overly damaged by the invasion of too many noxious agents (whether via ingestion, inhalation, application or injection). Humans and animals are unnecessarily vaccinated for many diseases which they could either naturally combat or from which they could easily recover. Sometimes, a vaccine suppresses the pathogen, which simply allows a more virulent version of the disease to appear later. One example is the chicken pox vaccine. An inoculated child may experience the much more serious shingles—a nastier form of chicken pox—as an adult.

It’s worth wondering if the *Lyssavirus* is an exception to the “Do not vaccinate” edict. There is a low incidence of rabies deaths worldwide compared to other diseases, but most strains of rabies cause an excruciating and painful death. Therefore, a rabies vaccine *might* prove beneficial, but *only* under the following circumstances:

- ◆ Use only the weakest strains of *live Lyssavirus*, as prepared by Hooper and Dietzschold—if, that is, it’s truly safe as the authors claim, with no “side” effects.
- ◆ Administer the vaccine *only after* exposure to the rabies virus, *never before*.
- ◆ Never use heavy metals, adjuvants, or other fillers—only a necessary carrier solution, such as saline.
- ◆ Simultaneously administer natural immune boosters, such as colostrum (or its extract of polypeptides, a.k.a. transfer factors), and one or more germicidal herbs such as echinacea, olive leaf extract, neem, teasel, cat’s claw, or chaparral.
- ◆ Routinely use ozone, which disables pathogens very effectively. Ozone can be administered both intravenously and via ear insufflation, a route allowing it to easily reach the brain. (See Chapter 3, **Oxygen Therapies**.)
- ◆ If necessary, sedate the individual to protect the brain, while the immune cells are working to eliminate the infection. (This may be more appropriate for humans than animals.)

Vets Against Vaccines

Conscientious veterinarians are opposing vaccines, despite the rabies phobia and mandatory vaccination laws. It's time to rely on sound science, rather than capitulate to pharmaceutical industry propaganda and lawmakers who are causing so many animals to suffer.

- ◆ How often has a pet been brought into our clinic with a history of telltale symptoms: fever, stiff or painful joints, lethargy, or lack of appetite, as if the pet had the flu, but it's not the flu. "Did your dog, by any chance, get vaccinated several days before this started," I'll ask. The owner will look at me as if I'm a mind reader.

—*Martin Goldstein, DVM (South Salem, New York, US)*

- ◆ Every skin problem . . . is due to vaccinations without fail. Later in life, arthritic situations and degenerative spinal dis-eases are the result of vaccines. The rabies vaccine in dogs and cats causes so many problems it isn't funny . . . personality changes, skin changes, damage to the thyroid and endocrine systems. It lowers the immune system tremendously. The animal becomes fair game to just about any disease.

—*John Fudens, DVM (Boise, Idaho, US)*

- ◆ One of the saddest things in our practice is to restore a dog's health (sometimes after prolonged and careful work) only to have the animal suffer a relapse and go into a decline after we acquiesce to a required rabies vaccine.

—*Richard Pitcairn, DVM (retired, US author)*

- ◆ Vaccinosis is the reaction from common inoculations (vaccines) against the body's immune system and general well being. These reactions might take months or years to show up and will cause undue harm to future generations.

—*Dr. Pedro Rivera, DVM (Sturtevant, Wisconsin, US)*

- ◆ The first thing that must change with routine vaccinations is the myth that vaccines are not harmful. . . . Veterinarians and animal guardians have to come to realize that they are not protecting animals from disease by annual vaccinations, but in fact, are destroying the health and immune systems of these same animals they love and care for.

—*Charles Loops, DVM (Pittsboro, North Carolina, US)*

- ◆ A growing number of holistic and now even conventional veterinarians are convinced, from sad experience, that vaccines . . . are doing more harm than good. I myself think that's a conservative view. I think that vaccines, justly credited as the tamers of disease epidemics, are nevertheless the leading killers of dogs and cats in America today.

—*Martin Goldstein, DVM (South Salem, New York, US)*

- ◆ . . . The hyena dog . . . was in 1989 threatened with extinction. Scientists vaccinated individual animals to protect them against rabies but more than a dozen packs then died within a year—of rabies. This happened even in areas where rabies had never been seen before. When researchers tried using a non-infectious form of the pathogen (to prevent the deaths of the remaining animals) all members of seven packs of dogs disappeared. And yet the rabies vaccine is now compulsory in many parts of the world. Is it not possible that it is the vaccine which is keeping this disease alive?

—*Vernon Coleman, MB (England)*

- ◆ Injected vaccines bypass normal defenses. They implant mutated microorganisms, preservatives, foreign animal proteins and other compounds directly into the system. This is done in the name of preventing a few syndromes. If an animal is in an optimal state of health, he or she will produce the strongest immune response possible. This response offers protection against all natural challenges. The irony is that vaccine labels say they are to be given only to healthy animals. If they were truly healthy, they would not need them.

—*Dr. Russell Swift, DVM (Ft. Lauderdale, Florida, US)*

- ◆ I would have animals all over the country responding beautifully to holistic treatment for one cancer or another. Then I'd get panicked calls. A tumor had just appeared. Or with those who'd had tumors removed, the tumor was back, worse than before. I'd ask the owner, "What in the dog's environment changed?" "Nothing." "Did you put him back on commercial pet food? Stop giving him supplements?" "Nope. In fact," the owner would say, "our local veterinarian told us just two weeks ago how great our dog was doing when we brought him in for his annual vaccines!"

—*Martin Goldstein, DVM (South Salem, New York, US)*

- ◆ Perhaps we have not eliminated the acute diseases at all, but merely changed their form into a chronic state of the acute disease. Prior to vaccination, the acute diseases were certainly life threatening, but once puberty was reached, most individuals live a long, relatively disease-free life. Today most individuals survive or bypass the acute phase, but they (we) live relatively disease-ridden lives. Vaccinations may prevent acute diseases, but if the exchange is for a lifetime of chronic disease, is that a viable option? . . . Will the patient live and flourish, or simply exist?

—*Don Hamilton, DVM (New Mexico, US)*

from: courageouscaucasians.com/vaccinations.htm
dogsnaturallymagazine.com/science-vaccines
pgferals.org/info/display?PageID=1369

A Sample of Studies Showing the Dangers of the Rabies Vaccine

Only a few dozen journal articles (most of them in English) on the harm caused by the rabies vaccine are listed; it's impossible to include them all. As long ago as 1966, researchers knew that the vaccine caused damage. The articles discuss many types of rabies vaccines that use different materials. Complete citations are in the endnotes.

- ◆ 1966: "Neuro-paralytic complications following antirabic vaccination." ²⁴⁵
- ◆ 1967: "Disseminated sclerosis syndrome following antirabic vaccination." ²⁴⁶
- ◆ 1969: "Duck embryo rabies vaccine. Anaphylactic reaction following initial injection." ²⁴⁷
- ◆ 1970: "Polyneuritis—a complication of antirabic vaccination." ²⁴⁸
- ◆ 1971: "Incomplete transverse myelitis following rabies duck embryo vaccination." ²⁴⁹
- ◆ 1972: "Neurological disease in man following administration of suckling mouse brain antirabies vaccine." ²⁵⁰
- ◆ 1975: "Neurological complication of antirabies vaccination in São Paulo, Brazil." ²⁵¹
- ◆ 1976: "Neurological complications following rabies duck embryo vaccination." ²⁵²
- ◆ 1977: "Facial diplegia with cellular albumin dissociation of the cerebrospinal fluid following rabies vaccination" [in French]. ²⁵³
- ◆ 1978: "Possible interactions between rabies vaccination and a progressive degenerative CNS disease." ²⁵⁴
"Neurological complications of rabies vaccines." ²⁵⁵
- ◆ 1979: "Fatal Guillain-Barre syndrome with reduced-dose antirabies vaccination." ²⁵⁶
- ◆ 1980: "Guillain-Barre syndrome after vaccination with human diploid cell rabies vaccine." ²⁵⁷
- ◆ 1982: "Vaccine-induced rabies in four cats." ²⁵⁸ "Neuroparalytic illness and human diploid cell rabies vaccine." ²⁵⁹
"Canine rabies in Nigeria, 1970–1980 reported cases in vaccinated dogs." ²⁶⁰
- ◆ 1983: "Delayed onset of post-rabies vaccination encephalitis." ²⁶¹
- ◆ 1984: "Neurological complications due to beta-propiolactone (BPL)-inactivated antirabies vaccination. Clinical, electrophysiological and therapeutic aspects." ²⁶²
- ◆ 1986: "Immune complex-like disease in 23 persons following a booster dose of rabies human diploid cell vaccine." ²⁶³
- ◆ 1987: "Myelin basic protein as an encephalitogen in encephalomyelitis and polyneuritis following rabies vaccination." ²⁶⁴
- ◆ 1988: "A high rate of neurological complications following Semple anti-rabies vaccine." ²⁶⁵
- ◆ 1989: "Vaccine-induced rabies infection in rural dogs in Anambra State, Nigeria." ²⁶⁶
- ◆ 1990: "CNS demyelination associated with diploid cell rabies vaccine." ²⁶⁷ "Anticardiolipin antibodies in patients with rabies vaccination induced neurological complications and other neurological diseases." ²⁶⁸
- ◆ 1992: "Brown-Sequard syndrome due to Semple antirabies vaccine: case report." ²⁶⁹
- ◆ 1993: "Myofibroblastic sarcoma originating at the site of rabies vaccination in a cat." ²⁷⁰ "A case of antirabies inoculation encephalitis with a long clinical course." ²⁷¹
- ◆ 1995: "Neuroparalytic complications after anti-rabies vaccine (inactivated nervous tissue vaccine)." ²⁷²
- ◆ 1998: "MRI in acute disseminated encephalomyelitis following Semple antirabies vaccine." ²⁷³
- ◆ 1999: "Peripheral neuropathy following administration of nerve tissue antirabies vaccine." ²⁷⁴
- ◆ 2000: "Guillain-Barre syndrome following antirabies vaccine." ²⁷⁵
- ◆ 2001: "Neurologic illness following post-exposure prophylaxis with purified chick embryo cell antirabies vaccine." ²⁷⁶
- ◆ 2003: "Encephalitis following Purified Chick-Embryo Cell Anti-Rabies Vaccination." ²⁷⁷
- ◆ 2004: "Biphasic demyelination of the nervous system following anti-rabies vaccination." ²⁷⁸ "Bilateral optic neuritis complicating rabies vaccination." ²⁷⁹
- ◆ 2005: "Incidence of and risk factors for adverse events associated with distemper and rabies vaccine administration in ferrets." ²⁸⁰ "IgE reactivity to vaccine components in dogs that developed immediate-type allergic reactions after vaccination." ²⁸¹
- ◆ 2013: "Erythema multiforme after rabies vaccination." ²⁸²
- ◆ 2014: "Rabies vaccine-associated thrombotic thrombocytopenic purpura." ²⁸³ "Vaccine-induced rabies in a red fox (*Vulpes vulpes*): isolation of vaccine virus in brain tissue and salivary glands." ²⁸⁴
- ◆ 2015: "Paralytic rabies or postvaccination myelitis: a diagnostic dilemma." ²⁸⁵

Disabling the Immune Response

The medical establishment claims that vaccines help the body develop immunity, but vaccines more typically cause either a lethargic or a hypervigilant response. To review, vaccines disable immune function because:

- ◆ The pathogens in the inoculation formulas are so altered, they often become part of the body's innate genetic material. This causes the body's immune cells to ignore similar pathogens, or attack its own tissues.
- ◆ The foreign materials are introduced into the body via injection. Normally, foreign material gets into the body through the mucous membranes, which act as a natural barrier to protect the body from foreign substances (everything that is "not-body"). The body responds to foreign irritants by expelling them in the same manner in which they arrived—via vomiting, or coughing and sneezing via the mucous membranes. Although the system is designed to eliminate viruses and other harmful microbes efficiently, vaccinations, as Van Beveren points out, bypass the body's "carefully designed evolutionary system by introducing toxic matter directly into the bloodstream. This gives the body no warning, . . . no chance to recognize . . . or defend itself against future challenges from typical antigens [foreign irritants]." ²⁸⁶ Allopathic medicine, by classifying these items as medical ingredients under the term "immunization," makes it seem normal and appropriate to inject poisons into the bloodstream.
- ◆ The ingredients comprising the formulas are harmful. The combination of manipulated pathogens, diseased biological tissues from various sources, mercury and aluminum compounds, an extra load of inflammatory proteins (cytokines), and various foods that act as irritants, do not promote health.

What Really Contributed to Better Health

Proponents of vaccines always cite the improved health of people who are vaccinated. This is not true, and in a moment I will dispute this claim with reliable data. In the meantime, let's take a brief look at other factors that were actually responsible for the improvement in public health. What helped people resist disease, if it wasn't inoculations?

Improved Living Conditions

History shows us that when serious diseases decreased, it was not due to the availability of vaccinations, but to the following:

- ◆ The introduction of indoor plumbing, which resulted in improved sanitation.
- ◆ Better protection from the elements, such as sturdier housing and more adequate clothing.
- ◆ Uncontaminated water for drinking and bathing.
- ◆ Cleaner food handling and storage.

Even today, some poorer countries don't have readily available, clean drinking water. Nor do they have the advanced sanitation facilities that wealthier nations enjoy. Thus, many people in underdeveloped parts of the world suffer from debilitating and life-threatening diseases such as trachoma and snail fever. But the solution is more basic than inoculations. Hundreds of thousands of deaths could be prevented if people had a cleaner living environment. The health of these developing nations would also markedly improve if their citizens had enough high quality food to eat. With better living conditions worldwide, and not just in the wealthier countries, the "need" for vaccinations and toxic medications would decrease.

Even though the United States is a highly developed nation in some ways, its population is sicker than residents of many poorer countries. People rely on drugs rather than prevention, thanks to an atrocious diet of fast food, sugars, fake fats, artificial preservatives, and chemical additives. Plants, raised on depleted and contaminated soil, are riddled with pesticides and herbicides (as are the animals that eat them)—especially if they're grown from seeds that are genetically engineered. (This is discussed in detail in Chapter 3.)

Lying with Statistics

Statistics are not the objective, static data we are led to believe; any data can be used to substantiate lies. In 1954, Darrell Huff wrote the humorous, easy-to-understand *How To Lie With Statistics* which quickly became a classic. Lying with statistics is unfortunately the norm—and it occurs even more today than when Huff's little volume was written. It's beyond the scope of this book to discuss in detail the ways in which statistics can be mathematically manipulated, but here are just a few examples of statistics manipulation as it relates to claims of medical success.

- ◆ *Take small improvements and make them seem more significant than they really are.* If you compare vaccinated people to a cross-section of the general population, you may find that they suffer equally from ill health. You may also find that the vaccinated are just as likely as the unvaccinated to contract the disease against which they've been inoculated. But if you compare vaccinated people to a specially selected

Dr. Russell Blaylock Interviewed: The Effect of Vaccines on the Physiology and Biochemistry of the Brain

Russell Blaylock, MD, is a board certified neurosurgeon, lecturer, and author who owns a nutritional practice. He practiced conventional medicine for 25 years before pursuing his nutritional studies and research full time.

It seems the brain is always neglected when pharmacologists consider side effects of various drugs. The same is true for vaccinations. For a long time no one considered the effect of repeated vaccinations on the brain. This was based on a mistaken conclusion that the brain was protected from immune activation by its special protective gateway called the blood-brain barrier. More recent studies have shown that immune cells can enter the brain directly, and more importantly, the brain's own special immune system can be activated by vaccination.

You see, the brain has a special immune system that operates through a unique type of cell called a microglia. These tiny cells are scattered throughout the brain, lying dormant waiting to be activated. In fact, they are activated by many stimuli and are quite easy to activate. For our discussion, activation of the body's immune system by vaccination is a most important stimuli for activation of brain microglia.

Numerous studies have shown that when the body's immune system is activated, the brain's immune cells are likewise activated. This occurs by several pathways, not important to this discussion. The more powerfully the body's immune system is stimulated the more intense is the brain's reaction. Prolonged activation of the body's immune system likewise produces prolonged activation of the brain's immune system.

Therein lies the danger of our present vaccine policy.

The American Academy of Pediatrics and the American Academy of Family Practice have both endorsed a growing list of vaccines for children, even newborns, as well as yearly flu shots for both children and adults. Children are receiving as many as 22 inoculations before attending school.

The brain's immune system cells, once activated, begin to move about the nervous system, secreting numerous immune chemicals (called cytokines and chemokines) and pouring out an enormous amount of free radicals in an effort to kill invading organisms. The problem is—there are no invading organisms. It has been tricked by the vaccine into believing there are.

Unlike the body's immune system, the microglia also secrete two other chemicals that are very destructive

of brain cells and their connecting processes. These chemicals, glutamate and quinolinic acid, are called excitotoxins. They also dramatically increase free radical generation in the brain. Studies of patients have shown that levels of these two excitotoxins can rise to very dangerous levels in the brain following viral and bacterial infections of the brain. High quinolinic acid levels in the brain are thought to be the cause of the dementia seen with HIV infection.

The problem with our present vaccine policy is that so many vaccines are being given so close together and over such a long period that the brain's immune system is constantly activated. This has been shown experimentally in numerous studies. This means that the brain will be exposed to large amounts of the excitotoxins as well as the immune cytokines over the same period.

Studies on all of these disorders, even in autism, have shown high levels of immune cytokines and excitotoxins in the nervous system. These destructive chemicals, as well as the free radicals they generate, are diffused throughout the nervous system doing damage, a process called bystander injury. It's sort of like throwing a bomb in a crowd. Not only will some be killed directly by the blast, but those far out into the radius of the explosion will be killed by shrapnel.

Normally, the brain's immune system, like the body's, activates quickly and then promptly shuts off to minimize the bystander damage. Vaccination won't let the microglia shut down. In the developing brain, this can lead to language problems, behavioral dysfunction, and even dementia. In the adult, it can lead to the Gulf War Syndrome or one of the more common neurodegenerative diseases, such as Parkinson's disease, Alzheimer's dementia, or Lou Gehrig's disease (ALS) [Amyotrophic Lateral Sclerosis].

—excerpted from
"Doctors Against Vaccines: Hear From Those
Who Have Done the Research"
by Joel Edwards

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organiclifestylemagazine.com/doctors-against-vaccines-hear-from-those-who-have-done-the-research

population that's exceptionally ill, the vaccinated can be made to seem healthier than they actually are. Drug companies are not legally obligated to reveal what groups they are using when they make comparisons.

- ◆ *Use a group that you have carefully screened for certain characteristics that will yield the results you want.* Rather than choose a random vaccinated group that represents the general population, select a group of test subjects you know will respond favorably, so you can prove that vaccines are successful. Pick people who were vaccinated, but who (within the time frame of the study) don't get the disease for which they were inoculated, and don't become ill from any other disease either. This leads us to the next strategy.
- ◆ *Control the amount of time that you are allocating to the study.* Damage by vaccines to one's immune function and other systems can build up over time. If you monitor your test subjects for only a brief period, long-range ill effects are much less likely to occur—and thus you won't have to record them. Conducting a study over a very brief period will almost certainly help you produce the outcome you want.
- ◆ *Don't report subsequent declines in health of vaccinated subjects.* A vaccine is assumed to be successful if it suppresses visible symptoms of the disease for which it has been taken. But if a recently inoculated subject becomes ill due to an apparently unrelated disease, it doesn't have to be reported because it's assumed that a vaccine is incapable of causing any disease.
- ◆ *Rename a disease to disguise the fact that an outbreak of that disease has been caused by a vaccine.* If thousands of people are inoculated against a particular disease, and then (in response) there's a more potent than usual epidemic—of that very same condition—change the name of the disease to hide the relationship between the vaccine and the outbreak. Let's say that people are inoculated against Disease X, and then the incidences of Disease X increase. When reporting the outbreak, simply change the name of Disease X to Disease Y. This way, it will appear that the vaccination has been a success—and it's just a coincidence that there has been an outbreak of some other disease so soon after a mass inoculation. (As we shall see shortly, this happens quite a bit, especially with the polio vaccine.)
- ◆ *If a study doesn't prove what you want it to, throw it out and pretend it never existed.* Then the public will never know about studies showing the failure rate of vaccines.

- ◆ *Outright lie: Claim that a particular vaccine is effective when it's not.* Earlier in this chapter, I mentioned the 2005 study by Greek physician John Ioannidis, whose statistical analysis showed that published data is more than 50% false.

There are many ways to lie with statistics. Most people don't think to question how, or if, the data has been manipulated.

Inoculation Criminals and Cover-Ups

So far, I have focused on the history of vaccinations, how inoculation ingredients affect the body, and the conditions catalyzed or caused by vaccines. Now it's time to discuss those who are aware of the damage but continue to promote these dangerous drugs anyway. What follows are brief descriptions of a small sample of politically-motivated cover-ups, along with legislation that has forced poisons into people under the guise of helping. Events are summarized from the past to the most recent.

More attempts than ever are being made to control the world's population through drugs, so it's important that you remain informed of current developments. For excellent online and printed sources of information, see Appendix A for many organizations related to health, food, politics, vaccines, and more.

Polio from Vaccine in the US (1950s)

In the 1950s a vaccination program for polio was implemented, causing clusters of a polio epidemic afterward. But the CDC (Centers for Disease Control, formerly the US Public Health Service) disguised the number of inoculation-related outbreaks by manipulating statistics: it called polio by another name. "In nearly every state where the Salk vaccine was administered," Van Beveren reminds us, "the polio rate leaped by 400% to 600%," to which the Public Health Service responded by issuing "new guidelines for the diagnosis of the disease. From statistics we note that polio ceased to be a big problem almost immediately [after inoculation] but that suddenly aseptic or viral meningitis (sometimes spinal meningitis or Multiple Sclerosis) were seen in epidemic proportions in approximately the same number that polio was diagnosed in prior years. . . . In *Archives of Pediatrics* (1950), Dr. Ralph Scoby lists not less than 170 diseases with 'polio-like symptoms and effects, but with different names. . . . Little mention is made of the fact that polio disappeared in Europe without mass immunization, and of the 25 or so cases of polio that have turned up in the past few years, virtually all were vaccine-induced.'" ²⁸⁷

Vaccine Makers Granted Immunity (1986)

In the US, if a product is dangerous, buyers are usually compensated for damages. For instance, car manufacturers don't always produce a safe car: they might conceal data about a faulty switch that claims lives. But the government forces them to do the right thing. Automobiles are recalled, the manufacturers are fined, and motorists are able to sue, often receiving monetary compensation.

Unfortunately, consumers' right to be compensated due to dangerous products doesn't apply in the world of Big Pharma. In 1986, the US Congress created the Vaccine Injury Compensation Program (VICP). The VICP—a “no-fault” alternative to traditional civil court lawsuits—was enacted after vaccine makers had been hit hard with high-profile lawsuits. Under the VICP, drug companies and negligent doctors are granted immunity against most lawsuits from injuries related to vaccines. The small percentage of damages that are awarded (only after years of litigation) are funded by *taxpayers*, and distributed by the federal government. (The compensation money comes from a 75-cent surcharge paid by consumers for each vaccine they receive.)

No matter how much money the federal government pays in damages to parents whose children have been hurt by vaccines, there's no liability to the drug companies, who don't have to pay anything. The US Court of Federal Claims in Washington, DC, handles contested vaccine injury and death cases in what has become known as “vaccine court.”

If vaccines are truly safe, drug companies don't need immunity. Why are they exempt from the law?

GAVI Formed to Protect the Vaccine Industry (1999)

GAVI is an acronym for the Global Alliance for Vaccination and Immunisation (GAVI). Originally funded by Microsoft billionaire Bill Gates (through the Bill and Melinda Gates Children's Vaccine Program), GAVI's partners also include the International Federation of Pharmaceutical Manufacturers Association, the Rockefeller Foundation, United Nations Children's Fund, the WHO (World Health Organization), and the World Bank. GAVI is also partly financed by countries that participate in its mass inoculation programs. In turn, GAVI gives generous monetary aid to vaccine manufacturers.

GAVI was formed, Lisa Reagan writes, in “A Dragon By The Tail: The Corrupt World of Global Vaccine Politics,” immediately after “a US Congressional Government Reform Committee initiated an investigation into the rampant conflicts of interest between federal vaccine policy makers and manufacturers.”²⁸⁸

Advisory Committee on Immunization Practices Meets to Protect the Vaccine Industry (1999)

The Advisory Committee on Immunization Practices (ACIP) is, according to the CDC website, “a group of medical and public health experts that develop recommendations on use of vaccines *in the civilian population of the United States*.” [emphasis added]²⁸⁹ Note that the website specifically states the vaccination of “civilians,” and not everyone, which would also include members of the government!

In October 1999, the ACIP stated that in view of the scientific literature showing that thimerosal was harmful, the long term goal was to try to remove it from vaccines as soon as possible. However, writes medical doctor Russell Blaylock, nothing was done.

**The first duties of
the physician is to
educate the masses
not to take medicine.**

—Sir William Osler, MD
“Father of Modern Medicine”
(1849–1919)

We have an important group here; the ACIP that essentially plays a role in vaccine policy that affects tens of millions of children every year. And, we have evidence from the Thimerosal meeting in 1999 that the potential for serious injury to the infant's brain is so serious that a recommendation for removal becomes policy. In addition,

they are all fully aware that tiny babies are receiving mercury doses that exceed even EPA safety limits, yet all they can say is that we must “try to remove thimerosal as soon as possible.” Do they not worry about the tens of millions of babies that will continue receiving thimerosal-containing vaccines until they can get around to stopping the use of thimerosal?

It should also be noted that it is a misnomer to say “removal of thimerosal” because they aren't removing anything. They just plan to stop adding it to *future* vaccines once they use up existing stocks, which entails millions of doses. And, incredibly, the government allows them to do it. Even more incredibly, the American Academy of Pediatrics and the American Academy of Family Practice similarly endorse this insane policy. In fact, they specifically state that children should continue to receive the thimerosal-containing vaccines until new thimerosal-free vaccine can be manufactured at the will of the manufacturers. . . . The most obvious solution was to use only single-dose vials, which requires no preservative. So, why don't they use them? Oh, they exclaim, it would add to the cost of the vaccine. Of course, we are only talking about a few dollars per vaccine at most . . .²⁹⁰

Nerve Damage from Thimerosal Suppressed (2000)

On June 7 and 8, 2000, over fifty scientists from the CDC, the FDA, and the vaccine industry met at the Simpsonwood Retreat Center in Norcross, Georgia, US. The official title of the meeting was “Scientific Review of Vaccine Safety Datalink Information,” and the vaccine representatives were from Smith Kline Beecham, Merck, Wyeth, North American Vaccine, and Aventis Pasteur. This secret meeting—which was neither announced in the Federal Register nor open to the public—was headed by Dr. Walter Orenstein, who at the time was director of the CDC’s National Immunization Program. A transcript of the meeting revealed that the topic of discussion was data showing a statistically significant correlation between mercury-containing vaccines and neurological disorders. The discovery, writes Reagan, “was made by CDC employee Thomas Verstraeten, MD, *using the CDC’s own data.*” [emphasis added]²⁹¹ This report was so secret, it had to be obtained through the Freedom of Information Act or FOIA (a law that allows people to more easily access information from the federal government).

After the meeting, Verstraeten did not respond to a US Congressional subpoena but instead left the CDC to work for a vaccine manufacturer in Belgium. However, Congress was able to question others who were at the meeting. Four years later, Dr. Russell Blaylock managed to obtain a copy of the original report and wrote in detail about it. His account reads, in part:

It all started when a friend of mine sent me a copy of a letter from Congressman David Weldon, MD, to the director of the CDC, Dr. Julie L. Gerberding, in which he alludes to a study by a Doctor Thomas Verstraeten, then representing the CDC, on the connection between infant exposure to thimerosal-containing vaccines and neurodevelopmental injury. In this shocking letter Congressman Weldon [refers] to Dr. Verstraeten’s study which looked at the data from the Vaccine Safety Datalink and found a significant correlation between thimerosal exposure via vaccines and several neurodevelopmental disorders including tics, speech and language delays, and possibly to ADD.

Congressman Weldon questions the CDC director as to why, following this meeting, Dr. Verstraeten published his results, almost four years later, in the journal *Pediatrics* to show just the opposite, that is, that there was no correlation to any neurodevelopmental problems related to thimerosal exposure in infants.

I contacted Congressman Weldon’s legislative assistant and he kindly sent me a complete copy of this report. Now, as usual in these cases, the government did not give up this report willingly, it required a Freedom of Information Act lawsuit to pry it loose. Having read the report twice and having carefully analyzed it; I can see why they did not want any outsiders to see it. It is a bombshell.²⁹²

Another person who has written extensively about the problems caused by thimerosal in vaccines and its cover-up is Robert F. Kennedy, Jr. Verstraeten, he wrote, performed:

the first large study of over 100,000 American kids whose vaccine and medical records were stored in CDC’s Vaccine Safety Datalink (VSD). Verstraeten provoked alarm with in the vaccine industry community when his data showed clear causative links between thimerosal and neurological damage, including autism. “The harm,” Verstraeten observed, “is done in the first month of life by thimerosal in vaccines.” He wrote in a December 17, 1999 e-mail to Robert Davis, a leading pharmaceutical industry consultant, that despite “running, rethinking, rerunning, and rethinking” the damaging effect of thimerosal persisted. He titled his 1999 e-mail, “It just won’t go away.”

When Thomas Saari, a spokesperson for American Academy of Pediatrics reviewed Verstraeten’s data, he panicked. “What if the lawyers get hold of this?” he wrote in an e-mail to his colleagues, “There’s not a scientist in the world that can refute these findings.”²⁹³

Only those who want to remain ignorant refute the vaccine-autism connection. In 1970, the autism rate in the US was 1 in 10,000. Today, it’s 1 in 68. Reagan states that “studies conducted or funded by the CDC that purportedly dispute any correlation between autism and vaccine injury have been of poor design, underpowered, and fatally flawed. The CDC’s rush to support and promote such research is reflective of a philosophical conflict in looking fairly at emerging theories and clinical data related to adverse reactions from vaccinations.”²⁹⁴ Despite abundant irrefutable data, the FDA continues to claim that thimerosal in vaccines is safe. If the mercury compound is removed, the FDA implies that it’s indulging consumer fears, rather than responding to real danger. More studies showing the link between thimerosal and autism are at whale.to/vaccine/Thimerosal_Immune_System_Abnormalities.pdf.

Vaccine Makers Granted More Immunity (2005)

On January 24, 2005, seven US senators introduced Senate Bill 3 (which was rapidly passed) that protected drug manufacturers from even more liability if their vaccines caused harm. “The bill,” writes Reagan, “is an unprecedented act giving comprehensive liability protections to vaccine manufacturers, restricting Freedom of Information Acts on drug/vaccine safety, and pre-empting states’ rights to ban mercury from children’s vaccines, all under the bill’s official title: ‘Protecting America in the War on Terror Act of 2005.’”²⁹⁵ That same year, the Global Alliance for Vaccines and Immunization accounted that it received \$750 million for its world vaccination campaign. Federal agencies shielded Big Pharma, but it was US taxpayer money that paid for the development of new vaccines.

The time required for the safety testing of vaccines is much less now than in the past. Vaccines are marketed quickly. If vaccines are safe, why do drug companies need immunity and why are they outside the law?

A man who cannot work without his hypodermic needle is a poor doctor.

—Martin Henry Fischer, MD
German-born American doctor,
prizewinning colloid chemist,
University of Cincinnati
professor of physiology,
and much quoted author
(1879–1962)

Polio from Vaccine in Nigeria (2007)

Polio, an inflammation of the spinal cord due to pathogens, toxins or nutritional deficiencies, can cause muscle atrophy and occasionally (but not always) paralysis. A polio scare in the 1940s and 1950s in the US led to the development of a vaccine. But in the last twenty years, the fear of polio has extended far beyond the North American continent.

In 2007, the *Canadian Press* documented a cause-and-effect relationship between the administration of vaccines in Nigeria and a subsequent rise in the vaccine-specific disease.

Nigeria has found 69 cases of children paralyzed by polio not caused by wild polio viruses, but rather weakened [“modified live”] viruses from polio vaccine that have circulated and regained their power to cause disease. . . . The vaccinated children shed viruses in their stools for weeks. Those viruses mutate. If they circulate long enough, the built-up mutations can restore the virulence stripped out in the vaccine production process, giving these viruses back the power to paralyze months and even years after their progenitors came out of a vaccine vial.²⁹⁶

Pro-vaccine officials insisted that the polio outbreak was due to an overall decrease in vaccinations, rather than the modified live viruses in the vaccines that had been given just before the outbreak.

Multi-Dose Vaccines Cause Disability, Death (2010)

In 2010, in association with GAVI, several countries participated in a program to inoculate their populations with multi-dose (five in one) vaccines. The countries included Pakistan, India, Sri Lanka, Bhutan, and Japan. A report made available to *The Express Tribune* stated that the program should be suspended until an investigation proved that the vaccines were safe for children, because 5,417 children had contracted the very diseases for which they had been inoculated. “The report stated that five deaths have been reported in Japan this year soon after the

vaccination was administered while 25 serious adverse reactions, including five deaths, were reported in Sri Lanka in 2008. Consequently, the vaccine was withdrawn. Bhutan also withdrew the vaccines after the deaths of children. The Association of Parents of Disabled Children from Bosnia and Herzegovina filed criminal charges after the GAVI-funded vaccines caused disabilities.”²⁹⁷

A Fraudulent Mumps Vaccine (2010)

On August 27, 2010, two former virologist employees of Merck filed a Complaint for Violations of the Federal False Claims Act in a US Court. The brief stated that for over a decade, the scientists had been pressured by their superiors and senior management at Merck to participate in a scheme to “defraud the United States with respect to the efficacy of Merck’s mumps vaccine” and take part in a “subsequent cover-up.” Merck had used “improper testing techniques and falsified test data to fabricate a vaccine efficacy rate of 95 percent or higher . . . [the efficacy rate that] the FDA insists for its licensing and approval of the vaccine.” Merck’s fraud included spiking the blood test with animal antibodies to artificially inflate the presence of immune activity. Moreover, the virus strain in the vaccine was different from what was actually infecting people in the real world. “The United States has over the last decade paid Merck hundreds of millions of dollars for a vaccine that does not provide adequate immunization,” the complaint read; and for the MMR2 vaccine (which contains the mumps formula), the US government paid even more: “between a half and three-quarters of a billion dollars.”²⁹⁸ Merck threatened employees who wanted to report the fraud to the FDA.

Star Brazilian football player Neymar was one person who had been inoculated with this vaccine and caught the mumps. Too ill to play, he missed two games—the prestigious Union of European Football Associations Super Cup and the Spanish Super Cup.

Deaths from Polio Vaccine in Pakistan (2010)

The worldwide effort to administer polio vaccines has continued. Here is an account from *The Express Tribune* of what occurred in Pakistan.

A government inquiry has found that polio vaccines for infants . . . are causing deaths and disabilities in regional countries including Pakistan. . . . The Prime Minister's Inspection Commission . . . has recommended that Prime Minister Yousaf Raza Gilani immediately suspend the administration of all types of vaccines funded by the GAVI.

The report . . . also suggested suspending the mass polio campaign, including the administration of pentavalent vaccines—a mixture of five vaccines to cure five diseases—until an inquiry finds these vaccines safe for children.²⁹⁹

Paralysis from Polio Vaccine in India (2011)

This time, the administration of the polio vaccine was done in India, under the auspices of the World Health Organization (WHO) in association with the Bill and Melinda Gates Foundation. According to statistics on paper, the inoculation program was a success. But the facts tell us something completely different. An article in a 2012 issue of *Indian Journal of Medical Ethics*, written by two doctors from the Department of Pediatrics at a hospital in India, reported:

While India has been polio-free for a year, there has been a huge increase in non-polio acute flaccid paralysis (NPAFP) [also simply called “acute flaccid paralysis,” or AFP]. In 2011, there were an extra 47,500 new cases of NPAFP. Clinically indistinguishable from polio paralysis but twice as deadly, the incidence of NPAFP was directly proportional to doses of oral polio received. Though this data was collected within the polio surveillance system [India's National Polio Surveillance Project], it was not investigated. . . . [Moreover, children with NPAFP] were at more than twice the risk of dying than those with wild polio infection.³⁰⁰

The authors, obviously and justifiably distressed, added that the polio vaccination program:

increased the incidence of other diseases and [has] broken the first rule of medicine—*primum non nocere*—first do no harm. . . . From India's perspective the exercise has been extremely costly, both in terms of human suffering and in

monetary terms. It is tempting to speculate what could have been achieved if the \$2.5 billion spent on attempting to eradicate polio, were spent on water and sanitation Ethicists will ask . . . why champions of the programme continued to exhort poor countries to spend scarce resources on a programme they should have known, in 2002, was never going to succeed.”³⁰¹

This was yet one more sad case where the cure was deadlier than the disease.

Vaccine Makers Granted Even More Immunity (2011)

In a 2011 landmark decision, the United States Supreme Court shielded Big Pharma from all civil liability for injuries and deaths caused by FDA licensed vaccines. Barbara Loe Fisher, author and co-founder of the National Vaccine Information Center, writes:

Meaningful congressional oversight on vaccine regulation and policymaking is non-existent today, in part because the pharmaceutical industry is the number one wealthiest and most powerful lobby on Capitol Hill [the seat of the US government]. . . . Parents, who file a claim today on behalf of a brain damaged vaccine injured child . . . know that the odds of obtaining financial assistance from the government are not much better than the odds of winning a lottery. Department of Health and Justice officials fight almost every award in the US Court of Claims so two out of three vaccine injury claims are denied.”³⁰²

Again, why are drug companies granted immunity if vaccines are truly safe? The federal government obviously doesn't care about protecting the people whose tax money supports it. Why?

Despite the tendency of doctors to call modern medicine an “inexact science,” it is more accurate to say there is practically no science in modern medicine at all. Almost everything doctors do is based on a conjecture, a guess, a clinical impression, a whim, a hope, a wish, an opinion or a belief. In short, everything they do is based on anything but solid scientific evidence. Thus, medicine is not a science at all, but a belief system. Beliefs are held by every religion, including the Religion of Modern Medicine.

—Robert Mendelsohn, MD
medical school professor,
chair of Illinois state licensing board, and
author, *How to Raise a Healthy Child
... in Spite of Your Doctor* (1984)
(1926–1988)

The term “poliomyelitis” is a description of spinal pathology. The meaning of the word comes from Greek: *polios*=gray, and *meles*=marrow, *itis*=inflammation; meaning “inflammation of the gray matter of the spinal cord.” All poliomyelitis means is that the gray matter of the spinal cord is inflamed. This can occur anywhere from the brainstem to the end of the spinal cord, and it has always had many causes, the least of which is a virus that lives in intestines of healthy people.

The result of this inflammation, whether chemical or viral, leads to certain characteristic muscular symptoms that have been conditioned into the minds of several generations of people to appear as the classic atrophied limbs, iron lungs and other horrifying images.

By definition and by historical documentation, these infamous images of polio should by no means be blamed solely on a specific wild-type (naturally occurring) virus. Environmental toxins, other infections, and laboratory-derived vaccine viruses were all implicated in paralytic polio over the years. Yet wild virus, even though it is said to be asymptomatic in 95% of infected, and only causes paralysis in a small amount of infected, is the excuse for world-wide polio vaccination with live viruses that are known to cause their own outbreaks of polio in China, Nigeria and India. . . .

Naturally existing polio is thought to have been a normal bowel commensal [resident, without causing injury] for hundreds of years before paralytic polio emerged as an epidemic disease, beginning in white populations. For instance, an in-depth study of a remote Indian tribe in the Rio das Mortes in the State of Mato Grosso, Brazil demonstrated the presence of the virus with consistent and high levels of immunity—and no disease. . . . Native populations are known to have harbored polioviruses of all three strains with no poliomyelitis whatsoever. . . . Any thinking person would have to wonder what changed to make the natives and the non-natives become paralyzed from an otherwise completely innocent viral bowel commensal. . . .

[Circumstances] that are known by polio scientists and well documented in medical literature to be highly correlated with paralytic forms of polio include tonsillectomy, intramuscular injections of any sort, vaccines, DDT, arsenic, misdiagnosed syphilis, coxsackie virus, [and] other enteroviruses, just to name a few.

—excerpted from Suzanne Humphries, MD
“CDC and Friends Sprinting Towards the Polio ‘Finish Line,’”
June 11, 2012

vaccinationcouncil.org/2012/06/11/cdc-and-friends-sprinting-towards-the-polio-finish-line-by-suzanne-humphries-md/#sthash.eapPSTUe.dpuf

CDC Admits Polio Shot Contained Carcinogenic SV40 (2013)

The Simian vacuolating virus 40 (SV40) is a pathogen often found in cancerous tissue. It overrides the host’s genes that normally suppress the growth of tumors, so as a result tumors grow more readily. SV40 is generally found in monkeys and not humans. But in the early 1950s, after Dr. Jonas Salk grew a polio virus for his oral vaccine on the kidneys of rhesus monkeys, SV40 jumped to humans. Not surprisingly, the number of cancer cases increased.

I will do my best to explain the facts of this convoluted tale as simply as possible. Between about 1955 and 1963, approximately 90% of children and 60% of adults in the US were inoculated with polio vaccines contaminated with SV40. This numbered over 98 million people. Dr. Michele Carbone, an oncologist at Loyola University Chicago Medical Center in Illinois, US, isolated pieces of the SV40 virus in 33% of the osteosarcoma bone cancers studied, 40% of other types of bone cancers, and in 60% of mesotheliomas lung cancers. (Prior to 1950, mesothelioma was quite rare; but after the creation of contaminated vaccines, the incidences of this disease steadily rose.) Carbone’s research about the connection between vaccines and mesothelioma was so compelling, that the third part of an article called “The Virus and the Vaccine,” published in *The Atlantic Monthly* in February 2000, was devoted to the doctor’s research.³⁰³

In 2005, a paper was published in *Cancer Research*, titled “Some Oral Poliovirus Vaccines Were Contaminated with Infectious SV40 after 1961,” written by Carbone, Rochelle Cutrone (whose name appeared first on the article), and colleagues.³⁰⁴ The possibility of contamination was real, because even though a federal law had been passed in 1961 that prohibited new batches of polio vaccine from containing SV40, the law did not require the destruction of contaminated vaccines that had been manufactured before the law was passed. Therefore, pharmaceutical companies were still free to distribute all of the tainted materials until the supply was gone. Furthermore, new batches of vaccine produced afterward *were allowed to be created from the original infected seed lot*. This means that the SV40 virus would continue to be disseminated to anyone who received a polio vaccine.

Despite the lax supervision of vaccine manufacturers, the study did not find the levels of contamination that one might expect. The researchers wrote: “All the vaccines were SV40 free, except for vaccines from a major eastern European manufacturer that contained infectious SV40. We determined that the procedure used by this manufacturer to inactivate SV40 in oral poliovirus vaccine . . . did not completely inactivate SV40.”³⁰⁵

This potentially relieving conclusion might have ended the discussion. But other doctors questioned the quality control measures that the drug companies had implemented. They suspected that subsequent batches of polio vaccine *did*, in fact, contain SV40. (They evidently were aware of the initial problem that had existed before 1961, when the original oral polio vaccine was created; see Sidebar, “Even in 1966, Polio Vaccines Were Known To Be Carcinogenic.”) Their suspicions were apparently justified, because as it turns out, the testing methods used to determine the contamination of the vaccine batches were very sloppy. It’s not known if the vaccines that were tested were even for polio, what the amounts were, or which manufacturers were represented! The SV40 Cancer Foundation discusses this study in depth, and then describes a well done, subsequent study (also involving Dr. Carbone), which revealed much more contamination, and in more lots of vaccines.

The SV40 Cancer Foundation website states:

If a first year graduate student was to write up a study like this [the one conducted for “Some Oral Poliovirus Vaccines Were Contaminated with Infectious SV40 after 1961”] no doubt they would get an “F.” But, this is the quality of the work that a major governmental body uses when it comes to SV40 and vaccines. The result in this paper is that the spread of SV40 is blamed on a major eastern European vaccine manufacturer whose vaccine did not come into the U.S. or U.K., and other vaccine manufacturers such as those in the U.S. and U.K. are off the hook.

As bad as this first study is, the second one is good. After the NIBSC [National Institute for Biological Standards and Control] found SV40 in the vaccines from the major eastern European vaccine manufacturer they shipped it off to independent labs, including Dr. Carbone at Loyola University in Chicago. [This time, Carbone was able to perform proper tests.] There, Dr. Carbone’s group put the EEVM positive samples through a battery of tests including PCR, transfection, and direct infection of susceptible cell cultures. His analysis confirmed the presence of SV40 and even identified the strains. In discussing one of the strains, Dr. Carbone wrote, “The other strain that we detected, CPC-MEN, was originally isolated in 1984 from a human brain tumor in a German patient. The same virus was independently isolated from a brain tumor of a U.S. patient in 1995. Here, there is evidence that a specific type of SV40 from the polio vaccine was found in human brain tumors in Europe and the U.S.”

This is important information. The larger question, however, is why didn’t the NIBSC send all of its samples from “current or recent seed lots” of all three poliovirus serotypes from Belgium, Canada, France, Germany, Indonesia, Iran, Japan, Mexico, United Kingdom, United States, Vietnam, the former Yugoslavia and the World Health Organization to Carbone and other labs for independent analysis and confirmation?

Even in 1966, Polio Vaccines Were Known To Be Carcinogenic

Here is a sample of journal articles, from the past to the most recent, acknowledging that the SV-40 virus surfaced in places it had not existed until after the oral polio vaccine was developed. Complete citations are in the endnotes.

- ◆ **1996:** “SV40-like sequences in human bone tumors.”³⁰⁶
- ◆ **1999:** “Unique strains of SV40 in commercial poliovaccines from 1955 not readily identifiable with current testing for SV40 infection.”³⁰⁷ “Molecular evidence of simian virus 40 infections in children.”³⁰⁸ “Cancer risk associated with simian virus 40 contaminated polio vaccine.”³⁰⁹
- ◆ **2000:** “SV40 and human tumours: myth, association or causality?”³¹⁰
- ◆ **2001:** “Simian virus 40 regulatory region structural diversity and the association of viral archetypal regulatory regions with human brain tumors.”³¹¹
- ◆ **2002:** “SV40 in human tumors: new documents shed light on the apparent controversy.”³¹² “Association of SV40 with human tumors.”³¹³ “Different simian virus 40 genomic regions and sequences homologous with SV40 large T antigen in DNA of human brain and bone tumors and of leukocytes from blood donors.”³¹⁴ “SV40 and human tumours: myth, association or causality?”³¹⁵
- ◆ **2003:** “SV40 in human brain cancers and non-Hodgkin’s lymphoma.”³¹⁶ “Simian virus 40 and its association with human lymphomas.”³¹⁷ “Molecular pathogenesis of malignant mesothelioma and its relationship to simian virus 40.”³¹⁸ “Simian virus 40 in human cancers.”³¹⁹

Autism and Intestinal Problems

As parents have long reported, many children with autism experience severe gastrointestinal (GI) problems and the associated discomfort can worsen behavior. Researchers, in turn, have found a strong link between (GI) symptoms and autism severity. Some experts have even proposed that toxins produced by abnormal gut bacteria may trigger or worsen autism in some children.

Now scientists at Columbia and Harvard universities report that the GI activity of children with autism differs from that of other children in two key ways:

- 1) Their intestinal cells show abnormalities in how they break down and transport carbohydrates [necessary for the body's manufacture of serotonin, a key neurotransmitter that helps calm the brain], and
 - 2) Their intestines are home to abnormal amounts of certain digestive bacteria. (Bacteria play an important role in normal digestion. But abnormal levels of certain bacteria have been associated with digestive problems and intestinal inflammation.)
- The two findings are likely related, the researchers propose. Alterations in how intestinal cells break down carbohydrates can affect the amount and type of nutrients that these cells provide to intestinal bacteria. This, in turn, may alter the makeup of the intestine's normal community of digestive bacteria—with ill results.

"The findings are consistent with other research suggesting that autism may be a system-wide disorder, says study co-author Mady Hornig, M.D., director of translational Research at Columbia University's Center for Infection and Immunity. The study is available through the online scientific journal *PLOS-One*.

The findings may also explain why many parents of children with autism report that special diets and probiotics (nutritional supplements containing "good" bacteria) improve not only their children's digestion but also their behavior . . .

"GI problems are a common and distressing concern for many children and adolescents with ASD and their families," explains Autism Speaks Chief Science Officer Geraldine Dawson, Ph.D. "These conditions are not only a strain on the health of the children affected, GI problems can seriously interfere with their ability to participate in and benefit from activities of daily life, education and therapeutic activities."

—Autism Speaks

"New Insight into Autism and Intestinal Problems"

autismspeaks.org/science/science-news/new-insight-autism-and-intestinal-problems

September 19, 2011

. . . Government laboratories and labs tied to vaccine manufacturers or government funding report that they tested various polio vaccines for SV40 and for the major western manufacturers everything is okay. These governmental sponsored studies, however, never allow their results to be independently verified as required by the scientific method.³²⁰

So, even if vaccines were the most effective and safe drugs in the world, would you consent to being inoculated if there was a possibility of contamination—to the extent that you might develop cancer later?

This story has emerged in stages. The initial revelations did not receive the public notice that they deserved, but what's interesting is that at some point, this data actually appeared on the CDC website. It's difficult to determine exactly when the data appeared, because it was very quickly removed by the CDC and suppressed by Google. But before the CDC page vanished, its image was captured and posted on numerous other sites. The date of the earliest reposting that I could find is 2013.

CDC Exposed for Hiding Data Showing Link Between Autism and the MMR Vaccine (2014)

An alarming controversy involving the CDC—the suppression of yet more data on the harm caused by vaccines—exploded in the media in August 2014. But the origin was published data that the CDC had succeeded in discrediting, and then suppressing, sixteen years earlier. Here's how it happened.

In February 1998, the medical journal *Lancet* published an article written by British surgeon Andrew Jeremy Wakefield (who specialized in intestinal disorders) and twelve co-authors, called "Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children."³²¹ The authors "investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder." Twelve boys (average age, 6 years) had initially been referred to a pediatric gastroenterology unit because they were suffering from diarrhea and abdominal pain, accompanied by "chronic enterocolitis and regressive developmental disorder." As the boys were evaluated—with, among other tests, "biochemical, haematological, and immunological profiles"—it became clear that ten of them had severe abnormalities. Ten displayed neurological disorders: autistic behavior (nine) and psychosis (one). Eleven of the boys suffered from chronic inflammation of the colon, which is common in autistic children. And two of the children appeared to have encephalitis. It was significant, said the authors, that the boys had "a history

of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain.” Most important was the researchers’ conclusion:

Onset of behavioural symptoms was associated, by the parents, with measles, mumps, and rubella vaccination in eight of the 12 children, with measles infection in one child, and otitis media in another. All 12 children had intestinal abnormalities, ranging from lymphoid nodular hyperplasia to aphthoid ulceration. . . . We identified associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated in time with possible environmental triggers.³²²

Thus, this article with an unassuming title contained a bombshell: information that linked the combination measles, mumps and rubella formula—the MMR vaccine—to a high incidence of autism in young African-American boys. As might be expected, evidence that children regressed after receiving the vaccine wasn’t good for business, for either doctors or the vaccine industry. But rather than maintain an open, curious, questioning mindset and respond, “Really? We should look into this further,” the medical community reacted with indignation and hostility. In 2004, *Lancet* issued a retraction of the article by Wakefield et al. The *Lancet* website and many Internet medical databases, which ordinarily display the full text of an article, showed only the title with “retracted” in large red capital letters across it. (A few databases did include the abstract, but not the full text.) Wakefield was portrayed as not only unethical, but a criminal; several writers published articles faulting his research and conclusions. Wakefield was accused of receiving monies from people who profited from the information disclosed in his paper. His medical license was also revoked by the UK’s General Medical Council.

Throughout this vicious smear campaign clearly designed to damage his reputation, Dr. Wakefield consistently and resolutely defended his research and conclusions, saying that no fraud, hoax or profit motive was involved. He also stated that his original 1998 findings were “replicated in Canada, in the US, in Venezuela, in Italy . . . [but] they never get mentioned. All you ever hear is that no one else has ever been able to replicate the findings. I’m afraid that is false.”³²³

Vindication finally came in 2015. A press release was issued, titled “Ongoing Investigations by Dr. David Lewis Refute Fraud Findings in Dr. Andrew Wakefield Case,” with the subtitle, “Well-known Whistleblower Calls for

Heads, We’re Right— Tails, You’re Wrong

In 1976, children received 10 vaccines before attending school. Today they will receive more than 36 injections. The American Academy of Pediatrics and the Centers for Disease Control and Prevention assured parents that it was safe to not only give these vaccines, but that they could be given at one time with complete safety. Is this true? Or are we being lied to on a grand scale?

The medical establishment . . . [acts as though they are] the unique holders of medical wisdom—the mantra is “evidence-based medicine”—as if everything outside their anointing touch is bogus and suspect. . . .

I find it interesting that there exists an incredible double standard when it comes to our evidence versus theirs. The proponents of vaccination safety can just say they are safe, without any supporting evidence what-so-ever, and it is to be accepted without question. They can announce that mercury is not only safe, but that it seems to actually increase the IQ, and we are to accept it. They can proclaim thimerosal safe to use in vaccines without their having ever been a single study on its safety in more than 60 years of use, and we are to accept it.

Yet, let me, or anyone else, suggest that excessive vaccination can increase the risk of not only autism, but also schizophrenia and neurodegenerative diseases, and they will scream like banshees—where is the evidence? Where is the evidence? When we produce study after study, they always proclaim them to be insufficient evidence or unacceptable studies. More often than not, they just completely ignore the evidence. This is despite the fact that we produce dozens or even hundreds of studies that not only demonstrate the link clinically and scientifically, but also clearly show the mechanism by which the damage is being done—even on a molecular level. These include cell culture studies, mixed cell cultures, organotypic tissue studies, *in vivo* animal studies using multiple species, and even human studies. To the defenders of vaccine safety our evidence is never sufficient and, if we face reality, never will be.

We see how questions of medical importance that are nitpicked to death on points of [presumed] scientific purity can cost a lot of lives—millions of lives.

—Russell Blaylock, MD

“Vaccines, Neurodevelopment, and
Autism Spectrum Disorders”

excerpted from *Pathways to Family Wellness*
Spring 2009, Number 21

pathwaystofamilywellness.org/Informed-Choice/vaccines-neurodevelopment-and-autism-spectrum-disorders.html

Withdrawal of *British Medical Journal* Article Alleging Fraud.” The whistleblower was research microbiologist David Lewis—a member of the National Whistleblowers Center Board of Directors and Director of its Research Misconduct Project, a former senior-level research microbiologist for the US Environmental Protection Agency, and a distinguished author in his own right with publication credits in many prestigious journals and magazines. The press release quoted Lewis as follows:

There was no fraud committed by Dr. Wakefield. . . . The grading sheets and other evidence in Wakefield’s files clearly show that it is unreasonable to conclude, based on a comparison of the histological records, that Andrew Wakefield ‘faked’ a link between the MMR vaccine and autism . . . Now that these records have seen the light of day, it is time for others to stop using them for this purpose as well. False allegations of research misconduct can destroy the careers of even the most accomplished and reputable scientists overnight. It may take years for them to prove their innocence; and even then the damages are often irreparable. In cases where mistakes are made, every effort should be taken to fully restore the reputations and careers of scientists who are falsely accused of research misconduct.³²⁴

This, then, is a brief history of the earliest known claim that the MMR vaccine can cause autism. What about the more recent controversy involving the CDC?

On August 26, 2014, Natural News website owner Mike Adams acquired a copy of an email, from an undisclosed source, that CDC employee Dr. William Thompson had sent to nine (named) recipients. The email focused on a Department of Justice investigation of the CDC, which in response to the earlier Wakefield studies had done its own research on the MMR vaccine and autism in 2002. The CDC confirmed Wakefield’s findings—that the MMR vaccine, when given to African-American boys under age 3, did indeed cause a 340% increased risk of autism. (The study was not intended to examine the autism risk beyond age 3.) In Thompson’s email, he mentioned that CDC personnel were trying to decide which documents to make available to the Department of Justice and which documents to withhold.

Less than 24 hours after Mike Adams published the formerly secret email, Dr. Thompson—now forced into the role of CDC whistleblower—had a statement posted on the website of the law firm that represented him. It immediately began with a blatant admission of scientific fraud at the CDC:

My name is William Thompson. I am a Senior Scientist with the Centers for Disease Control and Prevention, where I have worked since 1998.

I regret that my coauthors and I omitted statistically significant information in our 2004 article published in the journal *Pediatrics*. The omitted data suggested that African American males who received the MMR vaccine before age 36 months were at increased risk for autism.

. . . There have always been recognized risks for vaccination and I believe it is the responsibility of the CDC to properly convey the risks associated with receipt of those vaccines.³²⁵

It was impossible to misinterpret Thompson’s statement. He conceded that vaccines can be risky. He stated that the CDC had a moral obligation to publicly reveal these risks. And he said that it failed to reveal them.

After the story was made public, high ranking CDC officials refused to cooperate during a formal investigation by the US Congress. CDC personnel, including Dr. Coleen Boyle, outright lied under oath, stating there were no risks from the MMR vaccine. The head of the CDC from 2002 to 2009, Dr. Julie Gerberding, was also actively involved in the cover-up and tried to have Thompson punished for being a whistleblower. (After leaving the CDC, Gerberding became the new president of the Merck vaccine division.) However, Dr. Thompson told the truth. He admitted that he and the other co-authors “scheduled a meeting to destroy documents related to the study . . . [We] reviewed and went through all the hardcopy documents that we had thought we should discard, and put them into a huge garbage can.”³²⁶ Fortunately, Thompson kept copies of all the discarded materials, because he knew that concealing them was illegal and figured that someone might need to see them later.

Some prominent members of the African-American community, understandably livid, accused the CDC of conducting genocide against black men, and compared the administration of the vaccine to the Tuskegee experiment (see Sidebar, “The CDC’s Tuskegee Experiment”).

It’s significant that mainstream media did not cover this event—until compelling evidence from non-mainstream sources was disseminated so fervently that it could no longer be ignored. Mike Adams commented:

The release of those emails [by Natural News] may have been pivotal in Dr. Thompson’s choice to go public with his own statement. The vaccine establishment, which immediately and predictably accused Natural News of fabricating the two emails, is now backpedaling as rapidly as possible with the full knowledge that Dr. Thompson’s

public statement affirms and supports the authenticity of those emails.

The alternative media alone broke this story, pre-empting the *New York Times*, *Washington Post* and every Pulitzer-prize-winning journalist in the world. The tables have now turned. It is solely the alternative media which is now breaking most of the really important investigative stories of our time. . . . this also reveals that the entire world owes a massive and immediate apology to Dr. Andrew Wakefield whose career and reputation have been destroyed by the very people who conspired to commit scientific fraud at the CDC. We must all now call upon the media to run headlines like, “Dr. Wakefield Vindicated: MMR Vaccine Fraud Confirmed.”³²⁷

Since that fiasco, many “alternative” media sources interviewed Wakefield. He has written two books, *Callous Disregard* and *Waging War on the Autistic Child*. A few courageous medical journals outside the US have published his articles. Some of his work—including detailed rebuttal to the slanderous myths against him and his research, plus analyses of his data by other writers—are at wesupportandwakefield.com/scientific.asp.

Measles, the Ultimate Disneyland Fairy Tale (2015)

Measles, caused by a virus, infects almost all children at some point in their young lives. Symptoms include fever, runny nose, coughing, sneezing, fatigue, and the condition’s best known feature, a red skin rash. Although highly contagious, measles is not lethal. The child is fed liquids, kept warm in bed, and the disease runs its course. In this situation (normal circumstances), the child’s immune cells fight the virus and tag it—in other words, “remember” its presence and unique antigen pattern—so that in the future, there will be no more infections, and the child will not be able to infect anyone else.

It’s true that during the 1800s, measles was a noted cause of death. Roman Bystryanyk writes:

In Glasgow, England, from 1807–1812, measles accounted for 11% of all deaths. In the years from 1867–1872, 49% of children in a Paris orphanage who developed measles died. . . . [However, by 1963] the death rate from measles in the United States had already dropped by approximately 98%. . . . Deaths from asthma were 56 times greater, accidents 935 times greater, motor vehicle accidents 323 times greater, other accidents 612 times greater, and heart disease 9,560 times greater.

The CDC’s Tuskegee Experiment

Related to the CDC’s cover-up of the link between the MMR vaccine and autism in young black boys, is another crime that began over eight decades ago. Some call it the Tuskegee “clinical trials” or Tuskegee “study,” but in truth it was senseless, slow torture.

The main perpetrator was the US Public Health Service, which in 1946 founded the Communicable Disease Center that eventually morphed into the CDC. However, it had the full cooperation of an all-black college, the Tuskegee Institute in Alabama. The college agreed to support the “study” if it was given full credit and black professionals were involved. The stated purpose of this “study” was to record the natural progression of syphilis, which was rampant at the time, so that treatment programs for black people could be developed and implemented.

The subjects of this cruel experiment were male African-American adults. Between 1932 and 1972, 600 impoverished sharecroppers—399 who had syphilis, and 201 who did not—were recruited from Macon County, Alabama. The researchers told the men that they were being treated for “bad blood.” The men were also told that during their complimentary physical exams, they would receive medical treatment to cure their condition. Instead, they were given free meals, regular rubdowns with poisonous mercury salve (!), and burial insurance.

The first articles concerning this “study,” in 1934, stated the health dangers of untreated syphilis. In 1936, local physicians were asked to help with the “study” but not to treat the men, whose decline they followed until the men died. In 1940, the military gave orders not to give the men medical care. In 1947, the Public Health Service established centers to dispense penicillin for syphilis (the best known treatment at the time), but this was withheld from the Tuskegee experimentees.

Even though concerns were raised in 1968 about the ethics of the experiment, in 1969 the CDC—with the support of the local AMA—reaffirmed the need to continue the “study.” After news articles condemning this experiment were published in 1972, it ended. In 1973, the US Congress held hearings and a class action lawsuit was filed on behalf of the subjects, who began receiving compensation a year later. Wives, widows, and offspring were given benefits in 1975. In 1997, US President Clinton issued a public apology. In 2004, the CDC gave ten million dollars (of taxpayer money) to the Tuskegee University National Center for Bioethics in Research and Health Care so it could conduct “research” there.

The timeline of events is clearly posted on the CDC website, cdc.gov/tuskegee/timeline.htm.

British Medical Journal Criticizes CDC's Bias

The CDC's image as an independent watchdog over the public health has given it enormous prestige, and its recommendations are occasionally enforced by law. Despite the agency's disclaimer ["CDC does not accept commercial support"], the CDC does receive millions of dollars in industry gifts and funding, both directly and indirectly, and several recent CDC actions and recommendations have raised questions about the science it cites, the clinical guidelines it promotes, and the money it is taking. . . . Industry funding of the CDC has taken many doctors, even some who worked for CDC, by surprise. . . .

Funding of CDC took a turn in 1983, when the CDC was authorised to accept external "gifts" from industry and other private parties. In 1992, Congress passed legislation to encourage relationships between industry and the CDC by creating the non-profit CDC Foundation, which began operations in 1995. The CDC Foundation raised \$12 [million] . . . from corporations.

. . . In December 2009 . . . the [Office of the] Inspector General evaluated conflicts of interest of advisors and concluded, "CDC has a systemic lack of oversight of the ethics program": 97% of disclosure forms filed by advisors were incomplete, and 13% of advisors participated in meetings without filing any disclosure at all. . . . Following criticism of the CDC and its foundation for accepting a directed donation from Roche for the agency's Take 3 flu campaign . . . the CDC posted an article on its website entitled, "Why CDC Recommends Influenza Antiviral Drugs." The agency cited multiple observational and industry funded studies . . . which it described as . . . "independent" . . .

In 2012, Genentech earmarked \$600,000 in donations to the CDC Foundation . . . Genentech and its parent company, Roche, manufacture test kits and treatments for hepatitis C. . . . The CDC has also been criticised for its role in a series of studies into an epidemic of chronic kidney disease among men working in the sugar fields of central America. The sugar industry is paying \$1.7 [million] to fund the studies. . . . Researchers think that the epidemic, which has killed over 20,000 mostly young men, is most likely to be caused by "two interdependent factors: the misuse of agrochemicals . . . [neurotoxic pesticides] . . . and the working conditions of the labor force."

Jerome R. Hoffman, a methodologist and emeritus professor of medicine at UCLA said, "Most of us were shocked to learn the CDC takes funding from industry. . . . it was our government that made this very bad arrangement, so the way to fix it is not to ask the CDC to 'pretty please be more ethical, and avoid conflicts of interest' . . . we have to get the government to reject this devil's bargain, by changing the rules so this can no longer happen."

—Jeanne Lenzer

"Centers for Disease Control and Prevention: protecting the private good?" *British Medical Journal*, May 15, 2015

In England the measles vaccine was introduced in 1968. By this point measles deaths were extremely rare. The actual death rate from measles in England had fallen by an almost full 100%. . . . After natural measles infection during childhood, reoccurrence of measles was rare.³²⁸

So, about the time that measles was regarded as an annoying and inconvenient—but relatively harmless—rite of childhood passage, Big Pharma began publicizing measles as something to be feared, worthy of a vaccine. Thus in 1963, a measles vaccine was introduced. This vaccine contained a weakened, live measles virus, which caused, in about half the children who received it, a much higher fever than they would have had if they'd simply contracted the disease normally. Doctors even had a name for this new disease caused by the measles vaccine: *atypical measles*. The symptoms, Bystranyk summarizes, included "a modified measles rash in 48 per cent of the children who received it and fever as high as 106 degrees [compared to 103 degrees, in a case of normal measles] in 83 per cent of them."³²⁹ Atypical measles was reported even 16 years after children received the weakened live measles vaccine.

Measles was not in the news very much until the media began extensively covering what it called a measles "epidemic." On January 7, 2015, an unnamed spokesperson from the Disneyland theme park in Anaheim, California, issued a warning to the public that there were at least seven confirmed cases of measles amongst the forty to fifty thousand people who visit Disneyland daily. The first infected person, whom the CDC believed to be a foreign visitor, had probably been at Disneyland in late December of the previous year. Again, keep in mind that this illness is from an admittedly irritating, but relatively benign, virus.

The dictionary, when referring to a disease caused by a pathogen, defines *epidemic* as "affecting or tending to affect a disproportionately large number of individuals within a population, community or region at the same time."³³⁰ (*Disproportionately* means "having or showing a difference that is not fair, reasonable, or expected: too large or too small in relation to something."³³¹) Yet another guideline for what qualifies as an "epidemic" is that the number of *deaths* (not illnesses) from a particular pathogen must exceed 7.7%;³³² although according to some sources, 7.7% of the population can simply become ill and not die. The CDC's official definition of *epidemic* is, "The occurrence of more cases of disease than expected in a given area or among a specific group of people over a particular period of time."³³³ This meaning is conveniently vague. It allows the CDC to change its rules about how many must become ill in order for a given disease to be labeled an "epidemic."

As we wade through this bewildering array of often imprecise definitions, the question arises: just how real *was* this measles epidemic?

Here are the numbers, as reported by the CDC. From January 1 to October 16, 2015, 189 people from twenty-four states and Washington, DC, were reported to have contracted measles. Of those, 131 people were from California, a huge state with a population of 38,802,500 (close to 39 million people), according to the 2014 census. For our calculations, even if we generously include those additional folks from out-of-state in our total, 189 who contracted measles out of 38,802,500 people in the entire state of California is, in percentages, 0.000487%. This hardly qualifies as an epidemic. Now let's look at the historic Bubonic Plague (also known as "Black Death"). Brought to Europe by infected rats on ships, it spread from about 1347 to 1353, killing the highest number of people around 1351. The Bubonic Plague eliminated 60% of the population of Florence, Italy, in just a few months. Now *that's* an epidemic! (About half of Europeans were dead in a few years, turning the epidemic into a *pandemic*.)

When people hear the word "epidemic" without stopping to think about what the numbers actually are, how serious the illness is, or even if there are any deaths, they allow fear to blind them. The fact is, measles is not life-threatening. The diagnosis may even be incorrect: "Measles is wrongly diagnosed in 97 per cent of cases, according to new data from the Public Health Laboratory Service . . ." ³³⁴ And a vaccine does not guarantee immunity in the person who's inoculated: true epidemics still occur in highly vaccinated populations, as illustrated by one of many titles, "Outbreak of Measles Among Persons With Prior Evidence of Immunity, New York City, 2011," which appeared in a 2014 edition of *Clinical Infectious Diseases: Oxford Journals*. ³³⁵ Notably, from 2004 to 2015—according to the CDC itself and the VAERS database—there were no deaths from measles, but there *were* 108 deaths from the measles *vaccine*. ³³⁶

Catering to the Disneyland media circus, Public Broadcasting Service lied, stating that one hundred people had died. The truth, however, was reported in an August 2015 *Los Angeles Daily News* column. More than 50% of measles sufferers during this "epidemic" had already been vaccinated—against measles.

Both vaccinated and unvaccinated individuals are at risk of contracting measles due to several reasons. Vaccine immunity wears off and live-virus vaccines, such as the MMR vaccine, sheds. If vaccine immunity wears off, and you can catch the disease from those shedding the virus after being recently vaccinated, then how does SB 277

actually protect anyone? . . . According to the CDC, there are a number of other states that have much lower vaccination rates and much higher opt-out rates than California. Yet, none of them has had any serious outbreaks. . . .

[SB 277] is about an out-of-control government bent on controlling your choices. . . . It wasn't "responsible Californians" who voted to deny parents' rights to make informed decisions about their child's health; it was 24 California senators who used the Disneyland measles outbreak as an excuse to increase government control over your children. . . . The question isn't whether to vaccinate or not to vaccinate. The question is whether parents should have the right to make an informed medical decision for their child's health. . . . [Anyone] endorsing SB 277 . . . is saying that the government should make that choice for you. . . . The massive, global pharmaceutical conglomerates that have a highly profitable monopoly on vaccines have absolutely no liability, so there is no incentive for them to improve the safety of their product. . . . SB 277 will not make anyone safer; it will only make people feel safer. ³³⁷

People with adequate stores of Vitamin A suffer the least from measles. Bystranyk writes that Vitamin A:

stops the measles virus from rapidly multiplying inside cells by up-regulating the innate immune system in uninfected cells which helps to prevent the virus from infecting new cells. It is well known today that a low vitamin A level correlates with increased morbidity and mortality . . . [and is also] a well-proven intervention for . . . concomitant infections, and hospital stay.

When the body fights any infection, but especially measles, vitamin A stores become depleted by various mechanisms. Measles infections and high-titer measles vaccines both impair cell-mediated immunity, in part because of vitamin A depletion. . . .

As early as 1932, scientists found that mortality dropped by 58 percent when children hospitalized with measles were given cod liver oil, which contains vitamins A and D and omega-3 fatty acids. Later studies in the 1990s showed amazing results of vitamin A reducing deaths by 60 to 90 percent. . . . By 2010 it was well accepted that supplementing with vitamin A during acute measles illness led to significant drops in both adverse outcomes and death. ³³⁸

Adequate Vitamin C is also key. As far back as the 1940s, researchers knew that high doses of C were effective against measles. From *Southern Medicine & Surgery*:

During an epidemic [of measles] vitamin C was used prophylactically and all those who received as much as 1000 mg. every six hours, by vein or muscle, were protected from the virus. . . . It was further found that 1000 mg. by mouth, four to six times each day, would modify the attack; with the appearance of Koplik's spots and fever, if the administration was increased to 12 doses each 24 hours, all signs and symptoms would disappear in 48 hours.³³⁹

Do we really need another vaccine? Or do we need quality nourishment that allows our immune cells to do their jobs?

The US Government - CDC Marriage

Private industry and government health offices such as the CDC or FDA should never be so cozy. It creates an environment of collusion between Big Government and Big Pharma. . . . the CDC already functions as the marketing division of the pharmaceutical industry.

—Mike Adams

"Former head of CDC lands lucrative job as President of Merck vaccine division"
December 22, 2009

Forced Vaccination in California, No Exemptions (2015)

After the Disneyland measles episode, a new law was passed. Despite the fact that very few people became ill, within weeks of this heavily publicized "epidemic" public health officials joined drug company executives and medical organization lobbyists, demanding mass vaccinations in California. They also urged the elimination of exemptions based on personal conscience, religious beliefs and most medical reasons. In response, on June 30, 2015, California governor Jerry Brown signed Senate Bill 277 (SB 277) for the mandatory vaccination of all schoolchildren. No exemptions based on personal belief or religious objections were allowed. Unvaccinated youngsters weren't permitted to attend public or private school, and toddlers were denied daycare unless they were inoculated.

To obtain a medical exemption for a child, parents had to apply to the Department of Public Health, and rely on the generosity of the state to opt out of vaccines. Governor Brown's official statement—which admitted that although vaccines can be risky, they're necessary to protect the community—was the complete opposite of a written announcement he'd issued three years earlier, in which he supported exemptions based on personal and religious beliefs.

SB 277 was passed unusually quickly, despite the thousands of people who publicly rallied to oppose the bill. Opponents knew that parents wouldn't be able to receive compensation if their children became ill or immune-

compromised from forced vaccinations, because legislation had already been passed that protects manufacturers from liability if someone is injured by a vaccine.

California Senator (and doctor) Richard Pan was the main public figure behind the state's mandatory vaccination law. In addition to his government duties, Pan was managing the pediatric training program at the University of California in Davis. The university conducts research and development of vaccines, gets paid to test vaccines, and receives additional funds to administer them. Not surprisingly, Big Pharma was a major contributor to Pan's campaign for senator.

Parents who were aware of the damage that vaccines cause were understandably upset. Some moved out of the state. Many of them withdrew their children from public school and began homeschooling. That August in *The Guardian*, "California home

school interest surges as parents look to sidestep vaccine law" described the new wave of homeschooling.

California has one of the largest populations of home-schooled children, with about 177,000 in some form of homeschooling, according to estimates by home-schooling expert Anne Zeise, who runs the website a2zhomeschooling.com. . . .

Diane Flynn Keith, who runs home-school information seminars in the San Francisco bay area, said her three-hour sessions have been filling to capacity since the law passed. Her most recent seminar earlier in August drew a sold-out crowd of 40, when normally she would expect about 25.

"At least 10 of the people there asked me specifically about vaccinations," she said. That demand has led her to add more events in the coming months. . . . Keith cautions parents that home schooling "is not easy" and those seeking a way out of vaccinations represent a "whole new group that are sort of being forced into it."³⁴⁰

Parents are challenging the law. They hope to achieve a similar outcome to that achieved in the state of Oregon, when a similar bill was defeated. Jennifer Margulis, PhD, had remarked to Oregon's Senate Committee on Health Care: "For me this is not a debate about the merits of vaccines, the harm vaccines may cause in a subset of vulnerable children, or whether or not the current CDC schedule is really in the best interests of our children's health. It is a debate about freedom and parental choice."³⁴¹

The political implications of this situation are extremely troubling. The law essentially allows the state to practice medicine without a license. It dictates how parents must raise their children—often under threat of having the child removed from the home. And the law denies people the freedom of choice in their health care. If mandatory inoculations occur in California, what's to prevent them from being implemented in other states? And with all adults, no matter how old or ill they are?

Not content to merely *push* vaccines, later in 2018, Senator Pan authored the “Online False Information Act.” His new bill required anyone who posts news on the Internet, *including information about vaccines*, to first verify all data with state-sanctioned “fact checkers.” Information disputed by Pan and his agents would have to be labeled “fake.”

Unavoidably unsafe products. There are some products which, in the present state of human knowledge, are quite incapable of being made safe for their intended and ordinary use. These are especially common in the field of drugs. An outstanding example is the vaccine for the Pasteur treatment of rabies, which not uncommonly leads to very serious and damaging consequences when it is injected. . . . The same is true of many other drugs, vaccines, and the like . . . It is also true in particular of many new or experimental drugs.

—Supreme Court of the United States
October term, 2010, citing opinion in
Bruesewitz et al. [vaccine-damaged children
class action lawsuit] v. Wyeth LLC, p. 6

Worthless and Harmful Flu Shots Promoted (Ongoing)

Influenza (or simply “the flu”) is similar to a severe cold that affects the respiratory and gastrointestinal tracts. Symptoms usually include fever, chills, sore throat, head and muscle aches, sometimes coughing, and perhaps abdominal cramping and diarrhea. The flu is caused by any number of viruses, each with a slightly different protein coating. This makes it impossible for virologists to classify or identify all of them.

Another reason flu viruses can't easily be identified is their tendency for *antigenic drift*—a small genetic shift that occurs each time a flu virus replicates. These viruses are constantly replicating; so by the next season, they have mutated entirely. It takes an entire season for researchers to produce a vaccine. Thus, any inoculation you receive is always from last year. Even with the (standard) three strains of virus in one shot, vaccine manufacturers must *guess* which strain will cause the next wave of influenza. So there's no guarantee that what you're being given matches the virus that's currently causing the flu. This is why flu vaccines are ineffective. In addition, as a 2017 journal article reminds us, “influenza virus often mutates to adapt to being grown in chicken eggs, which can influence antigenicity and hence vaccine effectiveness.”³⁴² (This also helps further explain the growing allergy to eggs.)

No wonder receiving a flu vaccine is like a crap shoot! Nevertheless, this doesn't stop the drug industry (or the

CDC) from promoting whatever flu vaccine they have stockpiled. Each year in the US, signs in doctors' offices, drug stores, and supermarkets urge consumers to get their flu shots. Each year, hundreds of thousands line up to receive them. And each year, thousands of unfortunate folks experience negative reactions to these shots. The reactions range from temporary flu-like symptoms such

as runny nose, sore throat, swollen red “hot spots” on the skin and aching muscles and joints, to more severe conditions such as muscle weakness and pneumonia. Even more serious (that is, permanent) conditions include incontinence, muscle damage, the inability to walk, paralysis, autoimmune neurological disorders (such as the paralyzing Guillain-Barré syndrome), and cancer.

Studies have shown that not only does the flu vaccine cause quite a bit of damage,

but that it does not protect against influenza. In fact, it may introduce other pathogens, leading to illness that did not exist prior to the inoculation. The body may be weakened to such an extent that it has no resistance to subsequent pathogens. Here are just a few examples:

- ◆ “Influenza Vaccine Effectiveness in the Community and the Household” reported the results of an assessment of the effectiveness of the flu vaccine during the 2010–2011 flu season. There was no substantial difference between subjects who received the vaccine and those who didn't: both groups (adjusted for age and health) were similarly at risk to become ill from the flu. What surprised the researchers even more was that receiving the flu vaccine two years in a row actually *lowered* immunity to the current season's strain of influenza.³⁴³
- ◆ “Association between the 2008–09 Seasonal Influenza Vaccine and Pandemic H1N1 Illness during Spring–Summer 2009: Four Observational Studies from Canada” questioned whether repeated annual flu vaccinations are effective. It concluded that people who receive seasonal trivalent (three-strain) flu vaccines have a much greater risk of subsequently contracting the H1N1 swine flu. For instance, recipients of flu shots in the 2008–2009 season were between 1.4 and 2.5 times more likely to become infected with the H1N1 swine flu during spring and summer of 2009.³⁴⁴

- ◆ “Clinical and Epidemiologic Characteristics of an Outbreak of Novel H1N1 (Swine Origin) Influenza A Virus Among United States Military Beneficiaries” conducted an analysis similar to the above, except it was a military population. The authors found that 66% of people infected with the H1N1 swine flu had received flu shots sometime in the previous 12 months. (Naturally, the CDC disagreed.)³⁴⁵
- ◆ Great Britain has heavily inflated the number of flu deaths. The 2010 article, “UK Fakes Flu Death Numbers,” reported that the UK Department of Health claimed that 12,000 people die annually, but this is 360 times higher than the actual number of deaths from the flu. “Fictitiously high death rates from flu continue to be invoked, resulting in scaremongering despite scientific evidence [that] the vaccines are ineffective for at risk groups. In 2007 it was claimed that 25,000 people died from flu annually—720 times the 2010 figure.” Where did these figures come from? After leaving his post as Chief Medical Officer, Sir Liam Donaldson posted on the *British Medical Journal* website that the flu death figures were fabricated. He wrote that the annual mortality rates, according to the Office for National Statistics, were all based on death certificate information. “The number of deaths for England and Wales with an underlying cause of influenza . . . for the four recent calendar years are: 39 (2008), 31 (2007), 17 (2006), and 44 (2005).”³⁴⁶ How could these statistics be so inflated? Because, he wrote, the computations included all certificates that even *mentioned* influenza. The coronor routinely swabbed the mouth (which harbors all kinds of bacteria) to test for pathogens. If the deceased tested positive for influenza, even if they didn’t die from it, this was counted as a flu death.
- ◆ Immunogeneticist Hugh Fudenberg found that individuals he studied between 1970 and 1980 who received five consecutive flu shots had a ten times greater chance of developing Alzheimer’s than those who had received one, two, or no shots. This, Dr. Fudenberg noted, was due to the mercury and aluminum that every flu vaccine contains. The gradual buildup of mercury in the brain helps produce *amyloid plaques*—toxic sticky proteins that accumulate outside of nerve cells. This is the same plaque that causes cognitive dysfunction, and is one of the criteria used to diagnose Alzheimer’s.

Files of the inserts that accompany vaccines—which doctors rarely allow non-doctors to read—can be downloaded at: www.vactruth.com

- ◆ Fluzone® is a popular flu vaccine sold by doctors and chain drug stores. During the winter, the CVS chain store offers customers a 20% shopping discount if they receive a shot. The 22-page warning for Fluzone® advises that if Guillain-Barré syndrome (a life-threatening, autoimmune neurological paralysis) has occurred within six weeks *of a previous flu shot*, to be cautious about administering another shot. Common reactions include headache, muscle pain, skin rash and severe fatigue, and possibly encephalomyelitis (tingling and burning in the extremities, sleep dysfunction, muscle weakness and vision abnormalities), Bell’s palsy (facial paralysis), and blood, lymph and respiratory disorders. The literature states that although 23 people died after being vaccinated, none of the deaths were caused by the vaccine because all of the flu shot recipients were elderly. We are also advised that the vaccine might not protect everyone who receives it, and it might not be safe or effective for pregnant women.

Dr. David Brownstein remarks:

On January 3, 2014 I received [a medical report in] an email titled, “High Dose Flu Vaccine: The Evidence Is In.” This interested me as I have done extensive research on the flu vaccine and know that it is ineffective at preventing the flu . . . Describing the results of the study, the doctor said, “. . . The high-dose shot was more effective in seniors. It was 24% better at preventing the flu than the standard flu shot.” . . . My first thought was, “You gotta be kidding me!” The 24% improvement with the high dose vaccine was accurate—1.43/1.89 equals a 24% improvement. However, as I teach other doctors and medical students, this is the *relative* risk difference. This number is not to be used when considering whether a particular therapy would help a patient. The more accurate number is the *absolute* risk reduction. The absolute risk reduction between the vaccines was 0.46% (1.89%-1.43%). The headlines should read, “New Flu Vaccine is 0.46% More Effective.” Going one step further, *it takes 217 elderly people to receive the high dose flu vaccine to prevent one case of the flu. . . . 216 out of 217 elderly people received the flu vaccine for naught—it did not help them prevent the flu. . . .* This new flu vaccine is worthless and too expensive—it is double the price of the regular flu shot, which is also worthless. [emphasis added]³⁴⁷

Who Refuses Vaccines?

The mainstream press claims that people who decline, avoid, or oppose vaccines are at best, highly inconsiderate of the rest of us (the obedient and healthy vaccinated), and at worst, fanatics or sociopaths. In fact, a May 8, 2017 editorial in the *Boston Herald* insisted that those spreading “lies” about vaccines be hanged! (The newspaper has since removed the offending editorial from its website.) Despite what this negative press would like you to believe, vaccine opponents are not fringe members of the population—unless you define “fringe” as people who think for themselves, research the pros and cons of vaccination, and utilize common sense instead of blindly accepting vague assurances from government agencies. Similarly, parents who choose not to vaccinate their children are not neglectful or uncaring. On the contrary, they tend to be better educated, and have more money, than their pro-vaccine counterparts. They seek, read, and evaluate all the data they can find. Sometimes parents learn the truth the hard way, after inoculation—when the child either becomes autistic, suffers other neurological damage, contracts the pathogen in the vaccine, or dies.

Even medical industry personnel are rejecting vaccines. No longer able to deny the poor success rates and the risks, they decide not to be jabbed, and tell others not to accept shots either. Below is a very small sample.

- ◆ 2009: *General Practitioners (GPs) and Nurses in the UK and Canada*. A *GP Magazine* website survey “found that up to 60% of GPs may decline vaccination. Although the numbers who responded were small—216 GPs—they are in line with a much bigger survey of nurses published a week ago by *Nursing Times*, which found that a third of 1,500 nurses would refuse vaccination. . . . A Canadian study published today in the journal *Emerging Health Threats* suggests the public, too, will have reservations that must be overcome . . . The study . . . pointed to the need to win over people who believe that alternative therapies and a good diet are a better option than vaccines. But the biggest problem in persuading people and healthcare professionals to have the jab may be the relative shortage of evidence from trials about its safety and efficacy.”³⁴⁸
- ◆ 2009: *Another Honest British GP*. Physician Liz Miller bluntly stated that “she would not recommend the vaccine to her patients because of safety concerns: ‘I do not intend to be vaccinated, nor will I recommend it to patients. It is untested and unnecessary. It’s time doctors started thinking for themselves instead of mindlessly obeying the Department of Health because they are terrified of missing out on free money.’”³⁴⁹

Negative Reactions to Vaccines— Sometimes Acquiring the Disease Itself

- ◆ According to US government statistics, children under age 14 are three times more likely to suffer adverse effects (including death) following the hepatitis B vaccine than to catch the disease itself.
- ◆ The Centers for Disease Control admits that the reported number of adverse effects of vaccines is probably only 10% of actual adverse effects.
- ◆ The CDC’s own guidelines warn not to vaccinate children if they exhibit even one symptom in a list of symptoms (called *contraindications*). Yet vaccines are legally required anyway.
 - summarized from Physicians and Surgeons Fact Sheet on Mandatory Vaccines, Association of American Physicians and Surgeons aapsonline.org/testimony/mandvac.htm
- ◆ In 2015, babies and children in La Pimienta, Mexico received inoculations for tuberculosis, rotavirus and hepatitis B, as ordered by the Mexican Social Security Institute. A full 75% of these children either died or were hospitalized.
 - summarized from “Depopulation test run? 75% of children who received vaccines in Mexican town now dead or hospitalized,” May 11, 2015 naturalnews.com/049669_vaccine_injury_depupulation_agenda_deadly_side_effects.html
- ◆ The British newspaper *Independent* reported that between January 1, 2005 and April 22, 2015, almost 22,000 injuries and deaths from vaccines (mostly for influenza and human papillomavirus) had been reported to public health authorities.
 - summarized from “Thousands of Teenage Girls Report Feeling Seriously Ill after Routine School Cancer Vaccination,” May 30, 2015 independent.co.uk/life-style/health-and-families/thousands-of-teenage-girls-report-feeling-seriously-ill-after-routine-school-cancer-vaccination-10286876.html
- ◆ In 2014, fifteen high school students in Falmouth, Massachusetts became ill with whooping cough. The state of Massachusetts allows parents to exempt their children from inoculations on philosophical grounds, so it was assumed that the number of outbreaks had increased because exemptions had increased by 5% from the previous year. However, a doctor was quoted as saying that all of the children who’d contracted whooping cough had been inoculated. No one questioned this apparent anomaly.
 - summarized from “15 Falmouth High Students Diagnosed With Whooping Cough,” November 14, 2014 boston.cbslocal.com/2014/11/14/whooping-cough-outbreak-on-cape-cod

- ◆ *2009: Doctors in Germany.* “Fredrich Hoffmann, head of Germany’s national vaccine commission, has told doctors that they should give the untested ‘swine flu’ jab to their patients no matter what . . . However, doctors in Germany are refusing to be bullied by the authorities in league with big pharma into rolling out a ‘swine flu’ jab campaign that will make billions for vaccine companies. Dr Jürgen Seefeldt, a specialist in internal medicine from Paderborn, sent an open letter to Dr Susanne Stöcker, an official from the German drug regulator, the Paul Ehrlich Institute, pointing out . . . her statement in the media that the ‘swine flu’ jab was not risky was an ‘infamous lie.’”³⁵⁰
- ◆ *2009: Polish Health Minister Eva Kopacz.* During a heated debate about the swine flu vaccine, she told Parliament that as a qualified family doctor with more than 20 years of experience, she could not and would not authorize the use of vaccines on millions of people as long as: there was no disclosure about the amounts of adjuvants and other ingredients in the formulas, the vaccines were inadequately tested (only a small number of healthy people were given the jab), and there was almost no information about the dangers (“side effects”) of the inoculations. Why should she subject the people of Poland to an unknown medication when the pharmaceutical companies did not want to take responsibility for any negative effects? She noted that governments in Western Europe, including Poland, “had signed secret agreements with pharmaceutical companies,” but “the secret contract that the Polish government was supposed to sign with pharmaceutical companies had more than 20 clauses which are against the law.” The prosperity of the Polish people, she said, was “more important to her than the profits of Big Pharma.” Finally, she pointed out, “the regular flu was much more common and damaging than the swine flu—“yet no pandemic had ever been declared over the seasonal flu.” Furthermore, all 193 people who were presumed to have had the swine flu, had survived.”³⁵¹
- ◆ *2011: Doctors and Nurses in the UK.* Even after years of urging health care providers to be vaccinated, Britain’s National Health Service still couldn’t convince them—and worried about their low inoculation rate. “No doctor among the 41 associated with direct patient care working for Derby City primary care trust was vaccinated, while in Luton PCT just one of 145 doctors received a jab (0.7%) and in Heart of Birmingham PCT five of 328 doctors were vaccinated (1.5%). . . . Nurses had similarly low rates. Just 3.7% of nurses at Suffolk mental health partnership got vaccinated . . . Fewer than one in 10 frontline health workers in some trusts were vaccinated. . . . Dame Sally Davies, the chief medical officer for England, recently criticised NHS staff who did not have the jab. ‘It is very selfish not to be vaccinated.’”³⁵²
- ◆ *2012: Various Health Workers in the UK.* Many health workers who trust the damage that they see with their own eyes, rather than the pro-vaccine slogans that they constantly hear, do not want to be vaccinated. The article, “Most UK Medics Refusing Flu Vaccines—UK’s New Chief Medical Officer Resorts To Bullying,” stated in part: “NHS [National Health Service] figures reveal only 34.7% of staff were vaccinated last year. . . . the UK’s Chief Medical Officer and other health officials have resorted to bullying NHS staff into taking the vaccine when it is known to be ineffective . . . and when vaccine safety data is being suppressed.”³⁵³
- ◆ *2012: Health Workers in Switzerland.* They refused vaccines for themselves and hesitated to administer them to those in their care. A Geneva hospital study “showed that many health care personnel thought of seasonal flu as ‘a benign disease not really requiring any special [prevention] effort.’ . . . [Homeopathic physician Pascal] Büchler says . . . ‘vaccines against seasonal flu have been shown to be ineffective for elderly people, who are also the greatest risk group.’ Büchler also questions the ‘alarming’ campaign brought by the Federal Office of Public Health. He refers to a large-scale epidemiological study, by American researcher Tom Jefferson, which concluded that only five to seven per cent of people displaying flu-like symptoms were actually infected with the virus. ‘If we transfer these figures to Switzerland, 75 people would be the accurate figure for deaths caused by influenza, and not 1,500 as the Office for Public Health would have us believe,’ Büchler says. . . . In 2010, the World Health Organisation (WHO) was accused of dramatizing worldwide influenza cases [because] . . . many countries had signed contracts with a stipulation to automatically buy vaccines when the WHO gave the highest alert level.”³⁵⁴
- ◆ *2012: Italian Ministry of Health.* “The Italian Ministry of Health prohibited the use and sale of four influenza vaccines produced by the pharmaceutical company Novartis. . . . The main risks involved are the serious side effects that may be caused by these flu vaccines. . . . They also announced the recall of 2.3 million doses of the Inflflexal V flu vaccine. ‘Potential danger’ to health was claimed for the recall.”³⁵⁵

- ◆ *2014: Dr. Bernard Dalbergue, a former pharmaceutical industry physician.* He stated that Gardasil® was “useless,” and that “decision-makers at all levels are aware of it. . . . [It] has absolutely no effect on cervical cancer” and “the very many adverse effects which destroy lives and even kill, serve no other purpose than to generate profit for the manufacturers.”³⁵⁶
- ◆ *2014: Dr. Suzanne Humphries, board certified in nephrology.* Pro-vaccine when first starting her practice, she changed her mind after seeing too many injuries. “Vaccines do not increase the health of a human. There is nothing in a vaccine that our bodies actually require. . . . [and there is] no nutritive effect. . . . I take really good care of my immune system.”³⁵⁷
- ◆ *2015: Former Pharmaceutical Sales Representatives (from Merck).* Scott Cooper and his wife decided against inoculating their son (born 1991). In an Internet video, Scott said that his son was rarely sick and was always healthier than his vaccinated peers. Before vaccine manufacturers were granted legislative protection, Cooper revealed, most of the lawsuits against Merck were because of its vaccine division.³⁵⁵ Brandy Vaughan, founder of the nonprofit Council for Vaccine Safety, also spoke against mandatory vaccinations. “The pharmaceutical company is using vaccines as a new driver for profit. This is really what’s behind the mandatory vaccination bills.”³⁵⁸ After her house was vandalized and her phone lines were tapped, she began repeatedly and publicly announcing that she would never commit suicide, especially as she was responsible for a young son whom she loved. In 2020 authorities proclaimed her unexpected death a suicide, but friends and colleagues said that she had been murdered.³⁵⁹
- ◆ *2021: Dr. Robert Malone, inventor of the mRNA and DNA vaccine core platform technology on which the Covid-19 “vaccines” are based.* He warned the FDA that the spike proteins—which the injections instruct the body’s own cells to create—are dangerous, as they are biologically active and travel throughout the body.³⁶⁰ The FDA ignored his appeals to not use the technology.
- ◆ *Ongoing: Health Practitioners, United States only (not mentioned elsewhere).* John Classen, MD (immunologist); Philip Incao, MD (general and children’s medicine); Mary Megson, MD (pediatrician); Meryl Nass, MD (internist); Lawrence Palevsky, MD (pediatrician); Sherri Tenpenny, DO; Jack Wolfson, MD (cardiologist), Rashid Buttar, DO.

Not surprisingly, statistics show that medical doctors “are the least inoculated group in the United States.”³⁶¹

Evolving Bacteria Outsmart Vaccines

Just as bacteria have adapted to antibiotics—so well, that they have become resistant—bacteria are now adapting to the effects of vaccines. The abstract of an article in a 2015 issue of *Journal of Infectious Diseases* states: “A worldwide resurgence of pertussis has been linked . . . to the use of acellular pertussis vaccines and the evolution of *Bordetella pertussis* away from vaccine-mediated immunity.”³⁶² In other words, the bacterium is responding in a self-protective way to the vaccine. The vaccine, instead of stimulating the human body to become immune to the bacteria, is stimulating the bacteria to adapt, so that it becomes immune to any attempts to eradicate it.

In response to the article, Dr. Joseph Mercola commented: “In 2013, the FDA discovered that while the whooping cough vaccine may reduce symptoms in those who are vaccinated . . . [it] does not prevent infection and transmission of the disease. In fact, you can get a series of pertussis shots and still become an asymptomatic carrier who is contagious and can spread the disease to others without even knowing it. That study effectively shattered the long-held illusion of vaccine-induced herd immunity.”³⁶³ There are over three hundred different strains of influenza, and a typical flu vaccine only targets the few that researchers guess might be present during the next flu season. To “remedy” this, scientists are now trying to target tiny portions of a single virus.

Typically, flu vaccines are created to stimulate the production of antibodies in response to the main protein of a flu virus: *hemagglutinin*, the lollipop-shaped structure on a virus’s outer shell. The head of hemagglutinin protein tends to mutate, while the larger stalk or stem remains fairly constant. Attempting to create a universal flu vaccine covering *all* influenza strains, scientists have removed the head and focused on the stalk. The theory is that when the body is injected with the stalks of just a few strains—presumed to be similar to each other and thus stable—the human will produce cross-reactive antibodies to *all* flu viruses.

However, in research with pigs (who in many ways react similarly to humans), the reality is different from the theory. Pigs injected with “stalk” vaccine for one virus, and then exposed to a different viral strain, have actually been *more* susceptible to severe respiratory disease than pigs *who are not vaccinated at all*. Research in many countries, using different animals, has yielded similar results.

Rather than splice viruses—which create even more elaborate and dangerous vaccines that don’t work—why not focus on helping the body simply, with natural substances? Or is it more fun to micromanage?

Vaccine Alternatives and Detox

In this technological age, people are becoming sicker—not only due to increasing numbers of antibiotic-resistant bacteria, but also the unprecedented increase in worldwide travel. More foreign ports means exposure to unfamiliar pathogens to which travelers haven't developed a natural immunity. This is one reason that doctors push so hard for inoculations before people visit foreign countries.

Vaccines encourage immunity only in theory. If we really want a healthy immune response, it makes no sense to inject fragmented or altered pathogens, bodily wastes, heavy metals, chemical preservatives, and other poisons into an already overloaded body. It does make sense to gently encourage immunity using ingredients and protocols that are compatible with the body's processes. If you want to stop inoculations for yourself and your children, it's helpful to know what the alternatives are.

Also, what do you do *after* you've been jabbed? If you are suffering from toxic effects? Or, what if you're lucky and feel okay after inoculation, but do research and decide that even though you won't accept any more vaccines, you still need to eliminate the poisons from your recent jab? This is when *detoxification* is needed to help the body eliminate dangerous and poisonous substances.

As it turns out, the safest and most effective “vaccine substitutes”—ingredients that encourage a natural healing response—are useful not only for when you become ill, but also for detox. I'll discuss just a few here. (Detox protocols are addressed in detail in Chapters 3 and 5.)

The information is *out there*. Brilliant scientists, physicians, and researchers without financial ties and agendas have weighed in and presented their concerns about vaccine safety and efficacy. However, the average citizen resists and clings to a hyper-simplified, seemingly “safe” stance. . . .

I understand now that my collection of PubMed articles substantiating concerns about inefficacy, neurological, autoimmune, and fatal risks of these poorly conceived and anachronistically relevant immune modulators is not meaningful to someone who is not interested. The questions raised by this information are not provocative to someone who needs, above all, to believe that the government, the CDC, and doctors mean well, are doing their due diligence, and that they are holding themselves to a basic standard of ethical delivery of healthcare. They are not meaningful to someone who needs to outsource their power.

—Kelly Brogan, MD

“A Shot Never Worth Taking: The Flu Vaccine”
International Medical Council on Vaccination,
November 27, 2013

Colostrum and Proline-Rich Polypeptides

The first “vaccine” that most humans and other mammals receive in life is a natural one, so in many ways it's the first and obvious choice for strengthening the immune response. This amazing substance is *colostrum* (and one of its extracts, discussed in a moment). Colostrum, sometimes called “the first milk,” is a yellowish sticky fluid rich in antibodies that's secreted by the mother's breasts just after she gives birth. It's produced for the first five days after birth, after which it becomes “transitional milk,” and is then replaced by “regular” milk—itsself rich in fats, proteins and essential nutrients—after a few weeks. All of the antibodies that the mother has created during her life, as a result of exposure to various pathogens, are conveyed to the infant through nursing.

This is why it's so important for babies to nurse. (The Weston A. Price Foundation has excellent recipes for natural liquid formulas if nursing isn't possible.) According to the La Leche League, an international organization that encourages women to breastfeed and teaches them how:

Colostrum actually works as a natural and 100% safe vaccine. It contains large quantities of an antibody called secretory immunoglobulin A (IgA) which is a new substance to the newborn. Before your baby was born, he [sic] received the benefit of another antibody, called IgG, through your placenta. IgG worked through the baby's circulatory system, but IgA protects the baby in the places most likely to come under attack from germs, namely the mucous membranes in the throat, lungs, and intestines.

Colostrum . . . [is vital for] the baby's gastrointestinal tract. A newborn's intestines are very permeable. Colostrum seals the holes by “painting” the gastrointestinal tract with a barrier which mostly prevents foreign substances from penetrating and possibly sensitizing a baby to foods the mother has eaten. Colostrum also contains high concentrations of leukocytes, protective white cells which can destroy disease-causing bacteria and viruses.

The colostrum gradually changes to mature milk during the first two weeks after birth. . . . the concentrations of the antibodies in your milk decrease [but]. . . The disease-fighting properties of human milk do not disappear with the colostrum. In fact, as long as your baby receives your milk, he will receive immunological protection against many different viruses and bacteria.³⁶⁴

Colostrum (and later, mother's milk) is considered a perfect food. It's antiviral, antibacterial, antifungal, and

antiparasitic. It promotes bone density, skin elasticity, stamina, and good digestion. It builds muscles and also repairs cartilage and nerves. And it's anti-aging. What colostrum can help correct is almost unlimited.

The most developed country in the world that heavily pushes vaccines—the US—is also one of the nations that provides the least support for breastfeeding. Few workplaces provide rooms where women can breastfeed or pump their milk. (A nursing mother must extract her milk regularly, or she stops producing it due to the lack of nipple stimulation.) In parks, restaurants and other public spaces, women are discouraged from nursing their babies—either psychologically (shaming and ridicule) or legally (laws that make it a crime for women to expose their breasts in public, even to nurse). Often, where it's legal for women to openly breastfeed, they are told to leave.

The medical establishment advises women not to breastfeed infants who are about to be inoculated because breastfeeding “interferes” with vaccines—rather than perceiving that vaccines interfere with the body's natural immunity! In 2010, the *Pediatric Infectious Disease Journal* published an article with the astonishing (and revealing) title of “Inhibitory effect of breast milk on infectivity of live oral rotavirus vaccines.” The authors compared how the breastmilk from women in India, Vietnam, South Korea, and the US affected a rotavirus vaccine. (The milk of Indian women conferred the highest immunity protection; the milk of US women, the lowest. Diet was presumed to be a factor.) The authors emphasized: “Strategies to overcome this negative effect, such as delaying breast-feeding at the time of immunization, should be evaluated.”³⁶⁵ Incredibly, the ability of breastmilk to confer immunity was promoted as a “negative effect”! A rebuttal to this article by Kristen Michaelis, called “CDC Advises Delayed Breastfeeding to Boost Vaccine Efficacy,” states in part:

Ten researchers from the CDC's National Centers for Immunization and Respiratory Disease (NCIRD) released a paper arguing that because the immune-boosting effects of breastmilk inhibit the effects of the live oral rotavirus vaccine, nursing mothers should delay breastfeeding their infants.

This . . . is the kind of convoluted logic that permeates the pharmaceutical industry. . . . Do they not realize what they have stumbled upon? *In demonstrating that breastmilk counters the live vaccine, they've shown that breastmilk counters the virus.* . . . Yet instead of recommending that the best way to fight this disease in infants is to encourage mothers to breastfeed, they're recommending that mothers refrain from breastfeeding so that the vaccine can work! . . .

Unvaccinated Children Are Healthier Than Their Vaccinated Counterparts

Considering the control that Big Pharma exerts over most medical journals—and the hostile (and unscientific) defense of vaccines escalating to the point where some people are publicly demanding the death of “anti-vaxxers”—studies comparing the health of vaccinated and unvaccinated children are either unknown, or aren't cited.

Finally, in 2017, the *Journal of Translational Science* had the courage to publish two studies. “Preterm birth, vaccination and neurodevelopment [NDD] disorders: a cross-sectional study of 6- to 12-year-old vaccinated and unvaccinated children,” revealed that vaccinated term birth babies had a 2.7 times greater risk of NDD (which could manifest as a learning disability, ADHD or autism), while prematurely born infants who were vaccinated had a *14 times greater risk* of developing NDD. Even *full* term, vaccinated children had a statistically significantly higher risk of developing NDD than full term or preterm children who weren't vaccinated. “The results of this pilot study,” the authors wrote, “question the safety of current vaccination practices for preterm infants”³⁶⁶—and, I would add, for everyone else as well.

“Pilot comparative study on the health of vaccinated and unvaccinated 6- to 12-year-old U.S. children” dealt with 666 older, homeschooled children. In contrast to the uninoculated, inoculated children had 30 times more incidents of hay fever, 300% more ear infections, and a 340% increase of pneumonia. In the area of learning disabilities (a quadrupled risk), the inoculated were more than three times likely to develop autism and 300% more likely to be diagnosed with ADHD. Overall, they were 250% more likely to be diagnosed with a chronic illness. The authors wrote: “The strength and consistency of the findings, [and] the apparent ‘dose-response’ relationship between vaccination status and several forms of chronic illness . . . all support the possibility that some aspect of the [vaccination] program could be contributing to risks of childhood morbidity.”³⁶⁷

One study conducted in New Zealand decades ago has now surfaced. In 1992, the Immunization Awareness Society (IAS) compared the health of vaccinated and unvaccinated children. Vaccinated children were far more likely to suffer from asthma, eczema, ear infections, hyperactivity, and tonsillitis. Not one of the unjabbed children had epilepsy or underwent a tonsillectomy, compared to the inoculated children (almost 2% had epilepsy and over 5% had surgery to remove tonsils).³⁶⁸

A full 43% of American children suffer from at least one chronic illness. They are four times more likely to be ill than their parents. Are vaccines helping?

[This] proves just how effective breastmilk can be! . . . Clearly, they have one goal in mind: to sell more vaccines. . . . if you are healthy, they don't make any money off of you. [emphasis added]³⁶⁹

The National Health Service from Great Britain (probably unintentionally) supports Michaelis's point:

Babies under six months old are not routinely given the MMR vaccine. This is because the antibodies to measles, mumps and rubella passed from their mothers at the time of birth are retained and can work against the vaccine, meaning it's not usually effective. However, this means the risk of any side effects is even lower among these younger babies, because the antibodies passed from the mother stop the viruses in the vaccine from growing. These maternal antibodies decline with age and are almost all gone by the time that MMR is normally given—around one year old.”³⁷⁰

People need to understand that when they're deciding between breastmilk and formula, they're not deciding between Coke and Pepsi. . . . They're choosing between a live, pure substance and a dead substance made with the cheapest oils available.

—Chele Marmet
founder of the World Alliance for Breastfeeding Action, who developed a technique in the 1970s to encourage the milk ejection reflex (MER) so nursing mothers could manually express more breastmilk

This statement from the NHS is misleading. One-year-olds lose the antibodies acquired from their mothers only if they stop nursing! As the La Leche League makes clear, ordinary breastmilk also provides immunity, although in lesser concentrations. Is the British National Health Service trying to scare parents into vaccinating their children? Also, as mentioned earlier, *the absence of antibodies does not mean a lack of immunity*. If antibodies are present, this means only that the system has been *recently* challenged by a particular pathogen. Immunity isn't static.

Moreover, if both mother and child are exposed to the same pathogens—and it's reasonable to assume that they will be—the mother creates a custom, environmentally specific immune milk for her infant. Pediatrician Bob Sears, father of eight children, writes:

Even babies who continue to nurse into toddlerhood benefit from the many immune factors in their mother's milk. . . . When a baby is exposed to a new germ, mother's body manufactures antibodies to that germ. These antibodies show up in her milk and are passed along to her baby. Many a nursing mother can tell the story of the entire family—dad, mom, siblings—coming down with the flu and the

nursing baby having the mildest case, or not getting sick at all. When mother comes down with a bug, the best thing she can do for her baby is to keep breastfeeding. . . .

Pioneers in breastfeeding research stated that breastfed infants are “biochemically different.” This difference in body chemistry may be the reason they are healthier. While babies are breastfeeding, they have fewer and less serious respiratory infections, less diarrhea, and less vomiting. When breastfed babies do become ill, they are less likely to become dehydrated and need hospitalization. . . . Studies have found that the benefits of breastmilk protect against a wide variety of other diseases. Here's a partial list: *Haemophilus influenzae* type B, pneumonia caused by *Streptococcus pneumoniae*, meningitis, infant botulism, urinary tract infections, cholera, salmonella, *E. coli* infections, [and] respiratory syncytial virus.³⁷¹

Suppose you are not a nursing infant (a realistic assumption if you're reading this book), and you want extra immunity now, as an adult. What can you do?

Whereas the fat and protein content of milks vary greatly between mammalian species, fortunately the immunity-building colostrums are universal. Whether from a cow, goat, camel, sheep, water buffalo, horse, dog, cat or other mammal, the beneficial molecules in colostrums are the same. This is why immunity can be conferred from one species to another, including humans. The world's commercially produced colostrum typically comes from cows; and the best and cleanest is from New Zealand, where rich, pesticide-free grasslands provide high quality grazing for the naturally raised cattle. The colostrum is collected after the calves have nursed first, usually for about the first 12 to 18 hours after birth. (If calves don't nurse, they always die.)

Colostrum, which as mentioned earlier contains immune factors that are even more concentrated than in breastmilk, is antibacterial, antiviral, antifungal, and antiparasitic. It promotes bone density, skin elasticity, stamina, and good digestion. It builds muscles and repairs nerves and cartilage. With virtually unlimited benefits, it both prevents illness and helps with detoxification. Just a few of the many valuable substances in colostrum are:

- ◆ *Lactoferrin*. A protein found in all mucous secretions of the body, lactoferrin is an all-purpose germicide. It kills pathogens by blocking their access to iron (which they need to reproduce), by preventing them from attaching to the host body's cells, and by binding to the outer membranes of pathogens, which causes them to burst. Lactoferrin is also anti-inflammatory, an antioxidant, and promotes the growth and activity of white blood cells.
- ◆ *Growth Factors*. Besides protecting the gut of the newborn and repairing the intestinal tract in adults and children, they regulate the growth of cells. This helps to heal wounds, broken bones, and injured ligaments and tendons.
- ◆ *Vitamins, Minerals, and Enzymes*.
- ◆ *Friendly Flora*. The probiotics help with digestion and immunity.
- ◆ *Proline-rich Polypeptides (PRPs)*, *small signaling molecules in the form of amino acid strings (sometimes also called transfer factors)*. These are the very best component of colostrum for concentrated immune protection. A detailed discussion is below.

Thinking that baby formula is as good as breast milk is believing that thirty years of technology is superior to three million years of nature's evolution.

—Christiane Northrup, MD
obstetrician and author
on women's health

Andrew Keech, PhD, is the former owner of a huge colostrum manufacturing plant in Phoenix, Arizona, US. The factory contains highly sophisticated equipment to transform the liquid colostrum into a powder that retains all the benefits of the original liquid. The powder is either sold in bulk in containers or put into capsules. Keech has developed a method of extracting just the PRPs (and other, single components) from colostrum without damaging the effectiveness of the delicate molecules. His technical but understandable, color-illustrated book, *Peptide Immunotherapy, Colostrum: a Physician's Reference Guide*, is comprehensive, heavily referenced, and well worth reading if you want to know more about the history, chemistry, and biological and physiological effects of these remarkable substances in colostrum. In it, Keech writes that proline-rich polypeptides are the “true gem” in colostrum, because they “modulate, balance, regulate or initiate indirectly most of the biochemical processes in the mammalian body. They are probably the most significant natural substances in the human body relating to the immune system.”³⁷²

Be aware that there's a difference between *boosting* the immune response and *modulating* or *regulating* it. Pharmaceuticals artificially boost or amplify the activity of the immune cells. But this boost forcibly pushes the body

into an unnatural, hypervigilant state—which causes lots of excess inflammation and faulty biochemical signaling, leading to autoimmune disorders. Colostrum, on the other hand, *regulates* or *balances* the immune cells. A genuinely regulated—that is, normal—immune response will become augmented or intensified if it's lethargic. But it will also become calmer and subside in intensity if it's too active. Colostrum, with its immune-regulating PRPs, never push the immune response in a direction that's not beneficial to the body.

PRPs alone confer more immune cell support than a comparable amount of colostrum (which contains fewer PRPs by volume). Therefore, pure PRPs may be preferred by people with severe illnesses. (Sometimes, people sensitive to dairy also choose PRPs instead of colostrum, which may cause reactions.) One serving of PRPs costs more than a serving of colostrum; but it's concentrated, so you get what you pay for. PRPs and colostrum have been used for every conceivable type of infection—including Epstein-Barr virus, Lyme disease, all strains of influenza—as well as cardiovascular and heart disease, inflammatory bowel conditions and leaky gut, all types of brain damage, and cancers. The list is endless. Some ranchers deliberately expose their cows to virulent pathogens and later collect their colostrum, which is given to humans infected with the same pathogens. This is a safe way to administer antibodies, similar to what mothers do when they nurse their babies. Lyme disease is sometimes eradicated by ingesting colostrum from Lyme-infected cows.

PRPs were originally discovered in 1949 by Dr. H. Sherwood Lawrence. Seeking the means by which tuberculosis immunity was conveyed from a person who had recovered to someone who was ill, Dr. Lawrence analyzed the tiny fractional components of lymphocytes (a type of white blood immune cell), and discovered PRP molecules. PRPs, he learned, were able to transfer a balanced immune response from one person to another. Then in the mid-1980s, two researchers surmised that PRPs might also be present in colostrum. (A confirmation of this discovery was awarded a patent in 1989.) Typically, cows are the most plentiful source of colostrum because they're large and easy to raise.

How exactly do PRPs work? Keech explains the details:

PRPs directly support the natural killer (NK) cells of the immune system. Natural killer (NK) cells provide the front line of defense specially equipped to locate and kill disease cells. NK

Vitamin A Helps Repair Vaccine Damage

Developmental pediatrician and autism specialist Mary Megson discovered that vaccines impair the memory of T cells and block the Vitamin A pathways in the brain. She recommends a daily intake of cod liver oil.

- ◆ 2–5 year olds: ½ teaspoon (or 2500 IU of Vitamin A)
- ◆ 5–10 year olds: ¾ teaspoon (or 3750 IU of Vitamin A)
- ◆ 10–12 year olds: 1 teaspoon (or 5000 IU of Vitamin A)
- ◆ Infants younger than 2 years old: less than 1/5 of a teaspoon either in their bottle or rubbed on the belly (the oil is easily absorbed through the skin)

Dr. Megson reports that children have responded well, enjoying improved eye contact, decreased asthma symptoms, better language comprehension and verbal skills, and better overall health. Infants respond even faster than older children.

cells attach to the surfaces of foreign substances or their outer cell wall and inject a chemical “grenade” (granule) into the interior. Once inside, the granules explode and destroy the foreign invader within five minutes. The NK cell itself remains intact and moves on to destroy the next immune attacker.³⁷³

I want to make one more, very important point. Back in 1950 and then in 1962, articles in two medical journals reported that Albert Sabin, the inventor of the oral polio vaccine, used antibodies from bovine colostrum for his first inoculations. Note the revealing titles: “Antipoliomyelitic substance in milk from human beings and certain cows,”³⁷⁴ and “Antipoliomyelitic activity of human and bovine colostrum and milk.”³⁷⁵ The substance that prevented polio was simple, and it already existed! But instead of using what was readily available in its natural state, Sabin chose to fabricate an unnecessarily complicated and dangerous pharmaceutical vaccine.

Dr. Andrew Keech, who grew up in New Zealand on a dairy farm, was blessed to drink unprocessed milk and (when available) colostrum, straight from the cows. He never got sick. People raised in cities and suburbs, divorced from the land, usually aren’t taught that the cures to what ails us already exist. The field of holistic health encourages us to return to the best of our roots.

I have devoted so much space to colostrum because, more than any other substance, it’s the quintessential natural “vaccine” that’s made especially for us, and is ready the moment we’re born. No synthesized drug can match its benefits. Should we need colostrum again at any time, we can take it—and enjoy true healing. But the results are not due to magic. They are grounded in biology.

Glutathione

The glutathione molecule is a *tripeptide* molecule, consisting of three *peptides*, or amino acids (the building blocks of protein)—L-cysteine, L-glutamine, and glycine. Glutathione helps build and repair tissues of the body, making it an ideal anti-aging ingredient. A key immune cell builder, it allows the white blood cells to remain viable for long periods of time and helps the body detoxify from various poisons, including heavy metals. Glutathione also protects every cell from damage and oxidative stress due to *free radicals* (discussed in detail in Chapter 3), giving it a well deserved reputation as the ultimate antioxidant.

In February 2000, an article appeared in the *Indian Journal of Medical Sciences*, “Glutathione levels in health and sickness.”³⁷⁶ The authors observed that a group of people with chronic illnesses—including heart disease, diabetes, chronic kidney failure, cataracts, and leukemia—had very low glutathione levels compared to a control group. They (reasonably) concluded that oxidative stress plays a huge role in illness, and recommended antioxidants as a viable medical therapy.

Glutathione improves the entire body, including cardiovascular system, brain and nerve tissue, immune cells, and muscles. This is why people use glutathione for such a variety of conditions: autism, dementia, Parkinson’s, heart disease, cancers, all kinds of infections, muscle damage, fibromyalgia, fatigue and low energy. Insufficient amounts of this compound even play an important role in autism, according to a December 2004 report issued by the independent Environmental Working Group:

Autistic children had less glutathione, an antioxidant that helps rid the body of toxic metals, when compared to a sample of healthy children. The study, led by Jill James, PhD, a professor of biochemistry and pediatrics at the University of Arkansas for Medical Sciences, found that a glutathione deficit “may contribute to the development and clinical manifestation of autism.”³⁷⁷

Glutathione is produced naturally by the liver, as long as two conditions are met. One, the liver must be relatively clear of toxins so it’s not overloaded and can do its manufacturing job. Two, the body must have the raw materials to make glutathione. Meeting the first condition can be a challenge. If the liver is too clogged to produce glutathione, more toxins accrue in the body—but the more toxins that accrue in the body, the more intensely glutathione is needed to help with detoxification! This is why people often must rely on external supplies of glutathione to increase their internal levels.

Which brings me to the second condition. There are two ways to increase glutathione levels: by providing the body with enough of the required raw materials so it can make it, or by taking glutathione supplements.

Foods that help either boost or maintain glutathione levels include some fruits (grapefruit, cantaloupe, peach, watermelon and strawberries), and vegetables (asparagus, avocado and spinach). Vegetables that contain lots of sulfur are especially helpful: onions, garlic, broccoli, kale, collards, cabbage, cauliflower and watercress. Raw eggs and grass fed meats contain sulfur. Whey, a protein formed when cheese is made, is especially high in sulfur, and it's available in powdered form at any health food store. You will need *cold-pressed* whey, which means that the proteins have not been *denatured*, or broken down by high heat during processing.

In the herbs department, milk thistle is popular and very effective for the liver. Often known by the name of its most active chemical compound, *silymarin*, milk thistle helps prevent glutathione from being depleted in the liver. It also helps protect the liver from solvents and other chemicals. A less easily obtained, but very powerful Chinese herb is *Platycodon grandiflorus*, also known as Balloon Flower Root or jiegeng. This herb is used a great deal in Chinese medicine because of its anti-inflammatory properties and its ability to increase intracellular glutathione.

A few commonly available nutritional supplements boost glutathione levels. Alpha Lipoic Acid (ALA) not only increases the amount of intracellular glutathione, but it's a powerful antioxidant that makes other antioxidants (such as Vitamin C and Vitamin E) more potent. Another vital nutrient, available in powder or capsule form, is N-Acetyl-Cysteine (NAC). Derived from the amino acid L-cysteine, NAC is a *precursor* of glutathione: once in the body, it's rapidly transformed or metabolized into glutathione, a more chemically stable compound. (NAC is so effective, it has even been approved by the FDA as a treatment for aspirin overdose.) Selenium, a powerful essential trace mineral, helps the body recycle and produce more glutathione.

A group of three nutrients, which work together and are considered perhaps the most critical to support the body's own glutathione production, are the biologically active form of folate (5-methyltetrahydrofolate, or simply methylfolate), the biologically active form of Vitamin B6 (Pyridoxal 5-Phosphate, or P-5-P), and the biologically active form of Vitamin B12 (methylcobalamin). These are discussed in great detail in Chapter 3.

What about supplementing with glutathione itself? Some glutathione supplements are worthless because, as a small molecule, glutathione is easily digested by the stomach acid and is therefore not available to the rest of the body's cells. This may be why many establishment and holistic medical personnel advocate the intravenous (IV) delivery of glutathione. However, injectable nutrients must be administered by a licensed health professional, and are therefore costly. Thus, there may be a bias to the claim that only IV glutathione is well absorbed.

At least one form of oral glutathione is highly effective: *reduced* glutathione. Reduced glutathione bypasses the

digestive processes intact, and is easily absorbed by every cell—including those of the eyes, liver and brain—if it's accompanied by suitable biochemical transporters. A few proteins act as glutathione transporters, one of which is disulfide bond cysteine. Articles that discuss the bioavailability of ingested glutathione include "Glutathione Transporters,"³⁷⁸ "Enhanced Glutathione Levels in Blood and Buccal Cells by Oral Glutathione Supplementation,"³⁷⁹ and

"Plasma membrane glutathione transporters and their roles in cell physiology and pathophysiology."³⁸⁰

In the 1970s, a doctor discovered a special whey protein, gamma-glutamyl-cysteine (GGC), which is a vital precursor to glutathione and is easily converted in the body. Whey, rightly promoted for its immune-supporting role, is generally well tolerated; but those who are especially sensitive to dairy may prefer another form of oral glutathione, *liposomal* glutathione. Here, the glutathione molecule is surrounded by a single thin layer of lipids (oils), which allow the glutathione to survive stomach acid and enter the cells directly. (Chapter 3, **Nutritional Supplements**, contains a recipe for making liposomal Vitamin C. This can be tried with ordinary, non-reduced glutathione as well.)

One novel way of getting glutathione into the body is in the form of patches. One company manufactures round adhesive bandages, a little less than 1.5 inches, that are placed on the skin over acupuncture points. These patches contain homeopathic remedies and other substances that don't penetrate the pores of the skin, but instead, transfer the *energy* of their ingredients to deep inside the body, thus inducing the production of endogenous glutathione.

Glutathione is essential for disease prevention. Vaccines cannot compare to glutathione's superior benefits and biocompatibility. Glutathione is essential for detoxifying from any poisons. And it's impossible to take too much.

One more thing. Colostrum contains glutathione.

The superior doctor
prevents sickness.
The mediocre doctor
attends to
impending sickness.
The inferior doctor
treats actual sickness.
—Chinese Proverb

Vitamin C

Vitamin C is most commonly known as *ascorbic acid*, (which is shorthand for “hydrogen ascorbate”). However, this vitamin also comes in the form of alkaline mineral ascorbates: sodium, calcium, magnesium, and potassium ascorbate. The ascorbate ion always attaches to another ion; hence, the compound name.

Vitamin C is a critically important nutrient. Involved in the growth and repair of every tissue, it’s a component of *collagen*, a protein found in skin, cartilage, tendons, ligaments, blood vessels, portions of the nerves and eyes, and the connective tissue membrane (*fascia*) that covers the muscles and spreads in a complex network throughout the entire body. These structures don’t work properly if there’s not enough Vitamin C to help build them. Vitamin C heals wounds and helps repair and maintain bones and teeth. As one of the top antioxidants, it protects DNA from damage and helps the body remove heavy metals and other toxins. It protects the cell membranes from toxic wastes and destruction. And it helps the body fight all types of infections, including cancers.

A May 2013 issue of *Nature Communications* published an article, “Mycobacterium tuberculosis is extraordinarily sensitive to killing by a vitamin C-induced Fenton reaction.”³⁸¹ (A *Fenton reaction* is the chemical catalyzation of the production of hydrogen peroxide. Hydrogen peroxide scavenges various pollutants including formaldehyde, which makes Vitamin C so helpful for detoxifying from the effects of vaccines.) Vitamin C cannot eradicate all pathogens, but it does help with many viruses and bacteria, including *Herpes*, *H. pylori*, influenza, and more—even Ebola.

Nobel Prizewinner Linus Pauling, PhD, helped make the public aware of ascorbic acid’s many features. In a 1992 issue of *Journal of Orthomolecular Medicine*, he wrote, with co-author Matthias Rath, “Ascorbate deficiency is the precondition and common denominator of human CVD [cardiovascular disease].”³⁸² We are commonly taught that a long term Vitamin C deficiency results only in scurvy, a condition of overall weakness and tenderness of the tissues, bleeding and bruising of the mucous membranes and skin, brittle bones, and anemia (insufficient amounts of red blood cells). But before the body reaches this point of severe deficiency, a tremendous amount of damage has

already occurred. This is because Vitamin C is critical to so many structures and functions of the body. It’s so important, in fact, that despite its easy availability, Vitamin C is undervalued and underutilized. It may be one of the most publicized, yet least understood, nutrients.

Because Vitamin C is water soluble, it doesn’t accumulate in the fat cells. It’s excreted daily by the body in urine and sweat, and therefore must be replaced each day. Replenishing this most important nutrient is even more critical because unlike most mammals, which produce ascorbic acid in their own bodies, humans

don’t have this capacity. Even high quality foods don’t supply us with nearly enough; and Vitamin C is destroyed by heat, so supplementation is essential. The benefits of Vitamin C are increased when taken with Vitamin E.

The medical establishment claims that few people are deficient in Vitamin C. However, the number of illnesses and degenerative conditions suffered by a majority of the population

prove that these claims are false. Dr. Pauling himself took what some consider to be massive doses: at least one gram daily (1 gm = 1,000 mg), in staggered 100 mg amounts throughout the day. The average adult, he said, required between 10 and 12 grams daily. The body governs the amounts, Pauling taught us, and its rule is simple. If you develop diarrhea, take less. If you don’t develop diarrhea, take more. Decrease a bit when you just reach the point where you start to experience loose stools.

Aside from diarrhea—which is the body’s way of indicating that more ascorbic acid is being ingested than what the system can handle at the moment—it’s impossible to ingest too much. For immune support for adults, many sources recommend 2,000 mg (2 gm) per day. Owen R. Fonorow of The Vitamin C Foundation mentions that an orthomolecular practitioner might suggest 5,000 mg of ascorbic acid daily. Especially for people who are ill, this may be a more suitable figure than a lesser amount, considering (as Pauling pointed out) that about half of the Vitamin C taken orally is broken down before reaching the cells, and is thus biologically unavailable.

One more thing. Vitamin C comes in four shapes whose atoms are arranged differently (some being mirror images of the others). The only form that can help build collagen is the L-ascorbate shape. Therefore, make sure you take this one, and that it’s labeled correctly.

Vitamin C is the world’s best natural antibiotic, antiviral, antitoxin and antihistamine. . . . orthomolecular (megavitamin) therapy concentrates on vitamin C. Let the greats be given their due. The importance of vitamin C cannot be overemphasized.

—Andrew W. Saul, PhD
clinical nutritionist,
biologist, orthomolecular specialist,
and author of *Fire Your Doctor:
How to Be Independently Healthy* (2005)

Colloidal Silver

Colloidal silver (CS) is amply discussed in Chapter 3 in its own section, so I'll summarize just a few key points here. This fluid is created when an electrical current is passed between two wires that are at least 99.99% pure silver and immersed in distilled water. Colloidal silver—or *electrolytically isolated silver* (EIS), its more chemically precise term—is not a heavy metal, despite what its detractors would like you to believe. Silver is a vital trace mineral that's naturally present in some foods, although not in enough quantities to provide significant benefits.

Quite a lot of research in respected scientific journals shows that silver not only kills most single-celled pathogens that it can touch, but it also encourages and strengthens a normal immune response without forcing it into a hyperactive state. Colloidal silver generators are sold on the Internet for about one hundred dollars, so anyone can make their own solution easily and cheaply. Some people even build their own generators from simple plans they find on the Internet.

There are many ways to use colloidal silver. To fight infections, adults might drink 2 teaspoons, 2 ounces or even 2 cups per day. For some, taking colloidal silver regularly is a way of life. A naturopath colleague in Canada uses it instead of drinking water, and as a base for all soups and beverages. His children have regularly ingested it since they were infants. None of them are vaccinated, and they have never been sick, not even with a cold.

Some water filters are impregnated with silver to kill pathogens. Medical items use silver to fight infections, such as silver-laced bandages in burn units. Socks, underwear and other clothing, all impregnated with silver threads, are marketed as fighting odors because the silver threads in them kill the bacteria that cause the odors. Establishment medicine has also combined silver with certain proteins. This creates silver compounds, which are different from electrolytically isolated, pure, unbound silver. The compounds don't destroy pathogens as effectively as CS and they can cause problems. However, they can legally be called "drugs" and thus receive patents.

Don't be surprised if your doctor is ignorant about the benefits of CS: the medical profession has done its best to denigrate the power of silver and mock the people who use it. Most people don't read medical journals, so they're unaware of decades of scientific research proving that silver heals. And researchers don't know that CS usually works better than (pharmaceutical) silver compounds.

Medical science has made such tremendous progress that there is hardly a healthy human left.

—Aldous Huxley
English satirist, philosopher, pacifist,
critic, and author of
Brave New World (1932)
(1894–1963)

After Inoculation: Some Simple Detox Measures

If you've already been jabbed, what can you do—aside from the support already mentioned? First, the injection site has to be calmed to inactivate the foreign proteins and reduce the accompanying swelling. Place a cold pack directly on the site, for 10–20 minutes, every hour or two. Ice it for two days or until the swelling subsides. You can also use an electromedical device. It can be the electricity-producing Avazzia™ or TENS units, encircling the spot where the needle was pushed in, or the magnetic vortex-producing Magnetex®, which can be placed directly over the site. (See Appendix C for details.)

Mercury and antibiotics (which are often in vaccines) cause yeast overgrowth in the digestive tract. The antibiotics kill the beneficial gut flora, allowing *Candida albicans* to proliferate—which eats mercury for food.

Some of the friendly gut flora can be replenished with probiotics. Taking lots of colloidal silver is a great way to eliminate infectious material; but because it kills all single-celled pathogens that it touches, take probiotics at least six hours away from when you're taking the CS.

Use a sauna for at least 30 minutes a day to sweat out the toxins. There are details on a sauna therapy protocol

utilizing niacin in Chapter 3. The sooner you start sweating, the easier it will be to eliminate the poisons.

A Concise Summary of Vaccines

- ◆ Vaccines are ineffective because they don't support optimal immunity or protect people from illness.
- ◆ Vaccines are harmful because they often cause the illnesses they're purported to prevent, as well as many other serious health problems and even deaths.
- ◆ The public is brainwashed into believing that it needs vaccines because pharmaceutical companies lie about the effectiveness of vaccines and our need for them.
- ◆ Vaccines are heavily promoted by government agencies and politicians who are funded by drug manufacturers or have various financial interests in vaccines.
- ◆ Newly created laws are making it more difficult for people to refuse vaccines, which essentially allows governments to practice medicine without a license.
- ◆ It's up to each individual to be responsible for his/her own health. Parents need to become well informed so they can protect their children.

FIGHTING BIG PHARMA

In this section, I'll describe just a few of thousands of lawsuits brought by consumers against Big Pharma. Even though the final example—genetically engineered seeds made by Monsanto—might not technically be classified as a drug, the seeds act like viruses in the body. Therefore, I'll be including legal action against Monsanto as well.

Some of these lawsuits were won, but our current market economy is still heavily biased in favor of those who cheat. Dr. David Egilman, professor of medicine at Brown University in Rhode Island, once stated that ethical companies cannot compete with unethical ones because “the penalties for getting caught never approach the cost advantages of increased profit, and there rarely are criminal penalties.” The professor proposed a “reform package [that] must . . . press criminal charges against industry leaders who suppress data that results in death.”³⁸³ Unfortunately, lawsuits will be necessary until our medical and business paradigms shift, encouraging honesty, quality, and fairness in the marketplace to be the norm rather than the exception. New lawsuits will undoubtedly occur after this book is printed, so please stay informed.

Conflict-of-Interest Lawsuits

Subpoenas issued to several drug companies—among them, Bristol-Myers Squibb, Johnson and Johnson and Wyeth—were, *The British Medical Journal* online reported, “part of an investigation . . . into a pattern of financial incentives that the major drug makers have used to persuade doctors to favour their drugs.” One manufacturer, Schering-Plough, was found to have “paid doctors between \$1,000 and \$1,500 for each patient for prescribing its drug Intron A [for treating hepatitis C]. . . . Six specialists in liver disease said Schering-Plough paid ‘consulting fees’ to doctors to keep them loyal to the company’s products.”³⁸⁴

The Lawsuit Against Paxil®

In 2004, Eliot Spitzer (then New York State Attorney General)—famous for his tough stance against companies that accrue profits at the expense of public health—sued GlaxoSmithKline, the world’s second largest drug manufacturer. Among numerous infractions involving its leading antidepressant drug Paxil®, the company was accused of fraud, negligence, liability, breach of warranty, charging consumers too much—and, significantly, of suppressing studies showing that the drug caused birth defects, and made children violent and suicidal.

In October 2006, without admitting any wrongdoing for having withheld negative information about the medication’s safety and effectiveness, Glaxo agreed to pay \$63.8 million to all those involved in the class action suit. Although nearly \$64 million seems like a lot of money, the US residents who had bought Paxil® products received very little. They were entitled to a full refund—and only if they could produce records of their purchases. Those without documentation would receive fifteen dollars. If there were more plaintiffs than anticipated, the money would be divided into even smaller portions and the actual payment amounts would be less.

For some of the plaintiffs, not even a large sum could undo the damage that had been caused. Several children named in the class action lawsuit had experienced such marked personality changes after taking the drug that they committed suicide. Their parents and families were not legally entitled to any additional compensation.

As if the suicide “side” effect weren’t problematical enough, in March 2005, the FDA and the Department of Justice cited Glaxo for failing to meet FDA standards for product strength, quality, purity and safety. It was discovered that the “active” ingredients in their Paxil CR® (time-release) tablets were absent, so the tablets were taken off the market.

People taking Paxil® must wean themselves off it gradually. Abrupt withdrawal—due to either stopping the pills or taking defective pills that lack a vital ingredient—can cause shooting pains, flu-like symptoms, and suicidal tendencies. Glaxo had never warned consumers that they might be endangering themselves by using the drug. (How ironic that Paxil® can cause suicide either by its presence or abrupt absence.) Although Glaxo agreed to an independent quality control review, and to recall all of the Paxil CR® manufactured before November 2004, the company was cited later for the same infractions. One reporter comments:

It would be difficult to find a better career than employment as a GlaxoSmithKline attorney, especially if job security is a top priority. Not a year goes by when the company is not doling out millions of dollars to defend against charges involving corporate misconduct of one kind or another.

A limited review of the company’s involvement in the legal system over just the last five years reveals a clear pattern of habitual corruption. However, although Glaxo has paid billions of dollars in accumulated fines, penalties and awards to plaintiffs in civil cases, not one company official has been arrested and charged with a crime.³⁸⁵

The Lawsuit Against Vioxx®

The beginning of the 21st century brought lots of negative publicity to Merck & Co. Inc. The manufacturer's drug Vioxx®, originally approved in 1999 and prescribed for arthritis, menstrual pain and muscular pain, was causing illness and even death. The drug had earned huge profits with over 50 million prescriptions during a five-year period, so Merck fought hard to hide the truth.

One of the major whistle-blowers against Vioxx®, Dr. David Graham, had a master's degree in Public Health, had trained in internal medicine and neurology at prestigious universities, and had been Associate Director for Science and Medicine in the FDA's Office of Drug Safety. Graham's research and desire to keep the public safe had caused the removal of almost a dozen drugs from the market. Just a few were the antibiotics Omniclox® and Trovan®, the diabetes drug Rezulin®, weight loss drugs Fen-Phen and Redux®, and the over-the-counter decongestant PPA (phenylpropanolamine).

Dr. Graham willingly gave revealing testimony before the Senate Finance Committee on November 18, 2004.

Let me begin by describing what we found in our study, what others have found, and what this means for the American people. Prior to approval of Vioxx®, a study was performed by Merck. This study found nearly a 7-fold increase in heart attack risk with low dose Vioxx®. [However] the labeling at approval said nothing about heart attack risks. In November 2000, another Merck clinical trial named VIGOR found a 5-fold increase in heart attack risk with high-dose Vioxx®. . . . About 18 months after the VIGOR results were published, FDA made a labeling change about heart attack risk with high-dose Vioxx®, but did not place this in the "Warnings" section. Also, it did not ban the high-dose formulation and its use. . . .

In March of 2004, another epidemiologic study . . . found that Vioxx® increased the risk of heart attack and sudden death by 3.7 fold for high-dose and 1.5 fold for low-dose, compared to Celebrex®. . . . This report estimated that nearly 28,000 excess cases of heart attack or sudden cardiac death were caused by Vioxx®. . . . this is an extremely conservative estimate. . . . For the survivors [of the drug who were injured], their lives were changed forever. . . . Dr. Eric Topol at the Cleveland Clinic recently estimated [that] up to 160,000 cases of heart attacks and strokes [were] due to Vioxx®, in an article published in the *New England Journal of Medicine*.³⁸⁶

Double Standard

I use absolutely no drugs, not even the psychoactive drug used by 53% of Americans (caffeine). . . . I'm no supporter of marijuana or any recreational drug, but if using marijuana to feel better is a crime, then why isn't the same standard applied to prescription drugs? If you think marijuana destroys your memory, you should try statin drugs sometime. They can destroy a person's normal brain function in mere months, leaving them in a drug-induced stupor that makes potheads look downright clever. . . . In my view, we should be arresting and locking up the Big Pharma executives and corrupt FDA officials who continue to push dangerous drugs that kill 100,000 Americans each year. If you really want to protect the public from dangerous drugs, start arresting and prosecuting the truly dangerous drug dealers—the ones operating under the FDA protection racket.

—Mike Adams, 2006
naturalnews.com/019340.html

Due in part to the *New England Journal of Medicine's* disclosure that Merck had knowingly lied to make Vioxx® appear safer than it was, the company was plagued by lawsuits. Some of the lawsuits were from people who developed heart attacks, blood clots and strokes, while others were from the families of those who had died. In August 2006, a federal jury found the pharmaceutical company "negligent," having "knowingly made misrepresentations" about the drug.³⁸⁷ Merck ultimately agreed to pay \$4.85 billion to settle nearly 27,000 lawsuits, but the company did not admit causation or fault. Vioxx® was no longer manufactured.

In an interview, Dr. Graham bluntly stated that the FDA is incapable of protecting people from unsafe drugs.

The FDA . . . could have prevented much of the damage, heart attacks and deaths simply by banning the high dose Vioxx® back in mid 2000 when they knew the results of the VIGOR Study. But the FDA did nothing for almost two years.

The FDA . . . views industry as the client. They're serving industry rather than the public. . . . The FDA . . . overvalues the benefits of drugs and undervalues the risks of drugs.³⁸⁸

Not surprisingly, Graham also spoke of the tactics used by FDA personnel and other government officials to intimidate and discredit him. He continues to speak about biased or completely altered studies that deter us from making informed choices.

The Lawsuit Against Lipitor® and Other Statin Drugs

Another medical disaster occurred with an entire class of medications known as *statin* drugs. Among the most widely prescribed medicines in the United States, statin drugs are designed to reduce the amounts of serum cholesterol (fats in the blood) by inhibiting a key enzyme involved in the body's ability to synthesize cholesterol.

By now, the scenario is familiar. What pharmaceutical companies claim about safety, compared to the unwanted “side” effects that consumers report, are very different. Medical doctor and associate professor Beatrice Golomb, along with several colleagues, has collected large quantities of data on effects of statin drugs. Studying one thousand subjects in a project funded by the National Institutes of Health, the researchers found that muscle pain, weakness and tenderness are not only “common” from statins, but the “actual damage to muscle tissue can be very serious.”³⁸⁹ The muscle damage is especially insidious, another research team reported, because even though there is “clear evidence of skeletal muscle damage in statin-treated patients,” people may be “asymptomatic.”³⁹⁰ If no symptoms are felt, the person will assume that the drug is safe—until there is long-term, probably irreparable damage.

Golomb and colleagues found many negative symptoms from statin drugs. In addition to extreme fatigue, subjects often experienced “headaches, joint pains, and abdominal pain. . . . Studies have confirmed that peripheral neuropathy (tingling and numbness or burning pain) may [also] occur with statins.” Other “side” effects included:

Sleep problems, sexual function problems, fatigue, dizziness, . . . a sense of detachment, . . . swelling, shortness of breath, vision changes, changes in temperature regulation, weight change, hunger, breast enlargement, blood sugar changes, dry skin, rashes, blood pressure changes, nausea, upset stomach, bleeding, and ringing in ears or other noises.³⁹¹

Statin cause more than physical symptoms; they produce emotional and psychological changes as well. Effects on cognition, mood, and behavior manifest as depression, memory loss, and difficulties in concentration and thinking. “In some cases,” report Golomb et al., “violence, psychosis, and suicide have been reported.”³⁹² There’s debate whether all statin users suffer permanent

memory loss. Many researchers, including Golomb, have found that memory loss (and other problems) often begin when people start taking the drugs, resolve when the drugs are stopped, and return when the drugs are resumed. Unfortunately, for some people the problems linger even after the drugs are withdrawn.

What about the “side” effects (which, remember, are toxic effects) on a developing fetus whose pregnant mother is taking the prescribed statins? It’s a long list of the most unbelievably malformed soft tissue, organs, glands, nerve tissue, and bones. The malformations of statin-fed babies are so terrifying and grotesque, that

the documented dangers might seem like science fiction had researchers not corroborated the findings. The defects seem unlimited: fused ribs; short or misshapen arms and legs (in some cases, one leg is almost one-fifth shorter than the other); holes in the heart and trachea; ruptured kidneys; and stenosis (an abnormal narrowing of blood vessels) with hydrocephalus (an abnormal, excess accumulation of cerebrospinal fluid). In fact, statins are so notorious for their effects on

the development of the brain, spinal cord and protective membrane that covers the brain and spinal cord, that the medical community has given spinal and facial deformities their own category. Spina bifida (“cleft spine”), the most common neural tube defect in the United States, is frequently found in statin infants. Some babies suffer from a failure of the brains hemisphere to divide. Or they lack brain lobes entirely. Still others have malformed skull bones and facial tissue. One facial deformity is a single eye located where the root of the nose would be, with either a missing nose or a tube-shaped nose above the eye. Another facial deformity is a small flattened nose with a single nostril located below closely-set, incomplete or underdeveloped eyes. Should the baby even live (which isn’t likely), these ghastly distortions are accompanied by paralysis, urinary incontinence, bowel dysfunction, and severe retardation. Women who become pregnant while taking statin drugs subject their babies to “worse defects,” comments one medical doctor, “than were ever caused by thalidomide [another drug that caused severe birth defects, and is now banned except in certain cases].”³⁹³

One must also question whether taking statins *before* pregnancy influences a fetus. We already know that diet, both before and during pregnancy, plays a critical role in the health of a baby. Therefore, it makes sense that drugs—especially statins—would play a critical role

Drugs make a well person sick. Why would they make a sick person well?

—Abram Hoffer, MDF, PhD, FRCP (C)

Canadian biochemist, physician and psychiatrist, Hoffer pioneered megavitamin therapies and introduced niacin to effectively treat mental disorders (including schizophrenia), alcoholism, and high cholesterol. (1917–2009)

too, because ironically, many of the birth defects occur precisely *because* the drugs are doing what they're designed to do: lower cholesterol. Despite what the medical establishment and popular press has led the public to believe, cholesterol is not a villain. As food activist Sally Fallon and fats expert Dr. Mary Enig point out:

Cholesterol is essential for the development of neural tissue, so we should expect to find that if the mother is taking a drug that inhibits cholesterol synthesis at a time when the fetus is developing, horrible developmental abnormalities will occur. Such as failure of the brain to develop in the right way, or duplication of the spinal cord.³⁹⁴

Statins also lower the levels of Coenzyme Q10, a vital nutrient. The website of the Mayo Clinic even bluntly stated (before the information was later removed):

Coenzyme Q10 (CoQ10) is produced by the human body and is necessary for the basic functioning of cells. CoQ10 levels are reported to decrease with age and to be low in patients with some chronic diseases such as heart conditions, muscular dystrophies, Parkinson's disease, cancer, diabetes, and HIV/AIDS. Some prescription drugs may also lower CoQ10 levels.³⁹⁵

Golomb and colleagues also discussed Coenzyme Q10.

There is published scientific evidence that statins lower CoQ10 levels in a dose-dependent fashion; that low levels of CoQ10 relate to muscle and brain pathology; and that restoration of CoQ10 may lead to diminution of symptoms in those with muscle or cognitive problems. We have received a number of anecdotal reports from statin users who developed muscle problems who report benefit from adequate doses (which vary from person to person) of Coenzyme Q10 supplements, which are available over the counter. There is also one small controlled study that reported benefit of CoQ10 to statin muscle symptoms. There are also controlled studies showing benefit of Coenzyme Q10 supplementation in persons who have low levels of this biochemical not necessarily related to statin use. Coenzyme Q10 should be in gelpcaps, in an oil or Vitamin E base to be absorbed.³⁹⁶

Given the horrendous deformities, and the interference with the body's normal levels of some nutrients (as well as its ability to process them), why are people taking statin drugs? The public has been convinced of a false "need." Fallon and Enig analyze Big Pharma's sales strategy.

Growth of this magnitude can only be achieved by rapidly expanding the customer base. First proposed for men deemed "at risk" for heart disease by virtue of "high" cholesterol levels, doctors now recommend statins for both men and women of all ages, diabetics and sufferers of rheumatoid arthritis. The literature even promotes statin use as a cancer prevention measure. . . .

Studies going back almost 30 years . . . [show] that the statin drugs do not provide any benefit to women who do not have already existing heart disease. [However] more healthy Americans joined the ranks of patients in July with new recommendations to lower LDL-cholesterol (the so-called "bad" cholesterol) to less than 100, [which is] *30 points lower than previously recommended*. The authors of the recommendations, which were . . . endorsed by [among others] . . . the American Heart Association and the American College of Cardiology, have made a living promoting pharmaceuticals, with most receiving honoraria from all the major drug producers, including Merck, Pfizer, Parke-Davis, AstraZeneca, Abbott, Dupont, Sankyo, Bayer and Bristol-Myers Squibb.

The challenge for the statin makers is to convince everyone "qualified" to actually take the drugs. . . . At a UK medical meeting . . . Dr. John Reckless (this is his real name!) calls for adding statins to tap water—like fluoride. (Actually some of the bestselling statins—Lipitor®, Baycol®, Crestor® and Lescor®—contain a fluoride compound.) [emphasis added]³⁹⁷

Convinced of the need to take a harmful drug, the public enriched Pfizer with 75 million prescriptions for Lipitor® in 2004. Lipitor® and another type of statin called Zocor® were the top two best-selling drugs in 2004. Figures for sales of cholesterol-lowering drugs between 2006 and 2007 were approximately \$15.5 billion per year. By 2012, sales in the US alone had climbed to almost \$29 billion per year. The statin market is so lucrative, new drugs are constantly being manufactured. It's easy to see why a drug company would do everything possible to convince people to take these toxic pharmaceuticals.

One effort designed to relieve the public's anxiety appeared as a full-page ad in the March 26, 2007 issue of *The New York Times*. The drug company clearly stated that not everyone, including people with liver problems and pregnant women, could take Lipitor®. People who experienced muscle weakness and pain they had not felt

Big Pharma Fails to Report Adverse Reactions or Deaths Due to Drugs

By law, pharmaceutical companies are supposed to report, to the FDA, adverse events (AEs) related to drugs, within fifteen days of receiving the information from consumers. Serious AEs include (but are not limited to) “death, a life-threatening adverse drug experience, inpatient hospitalization or prolongation of existing hospitalization, a persistent or significant disability/incapacity, or a congenital anomaly/birth defect.” Unexpected AEs are defined as those involving “any adverse drug experience that is not listed in the current labeling for the drug product.”³⁹⁸ The FDA uses the information received by drug companies to update drug warnings, so delays in reporting—or the lack of reporting at all—can pose extremely serious consequences for public health.

In September 2015, a review, “Drug Manufacturers’ Delayed Disclosure of Serious and Unexpected Adverse Events to the US Food and Drug Administration,” appeared in the *Journal of the American Medical Association Internal Medicine*.³⁹⁹ The authors investigated the effects of delayed submissions by manufacturers, as well as the number of disclosures that were being deliberately concealed. They found that drug manufacturers failed to disclose almost 10% of 1.6 million reports within the 15-day window. This included 120,000 cases of serious AEs—which included disability, birth defects, and life-threatening problems needing emergency care—as well as more than 40,000 deaths. Manufacturers were also likely to delay reporting serious and unexpected drug-related deaths other than AEs.

Legally, if the drug company does not maintain proper records and make timely reports, the FDA has the power (and obligation) to withdraw approval of the drug and suspend drug sales. However, according to the analysis conducted by the authors of the article, the FDA typically does not take any disciplinary action at all. The authors recommended that consumers send AE reports directly to the FDA instead of to the manufacturers, as clearly the companies cannot be trusted to follow the law.

But can the FDA?

before taking the drug were advised to tell their doctor. (The “side” effects of digestive upsets were not serious and would probably disappear, the company added.)

To me, though, the most interesting part of the ad was a statistic. For those already at risk for heart disease, Lipitor[®] was supposed to lower the probability of heart attack by 36%. This is an impressive figure. Fortunately, an asterisk led to an explanation of how those figures were determined. Not only was the 36% obtained from an unnamed number of participants who were studied for an undisclosed period of time, but the way the figure was calculated was deceptive. The reader was told that 3% of all subjects studied who took a placebo had heart attacks, compared to 2% of subjects who took the statin drug. The only way to obtain the figure of “a 36% reduction in heart attacks” is to base your calculations on the *relative* benefit: *2 out of 3 subjects taking Lipitor[®] had heart attacks, compared to 3 out of 3 not taking Lipitor[®]. Therefore, Lipitor[®] is one-third more effective.* Similar to what Dr. David Brownstein describes as a *relative* risk (see page 122), this *relative* “benefit” is a diversion. The difference in percentage points is actually insignificant. I wonder how many readers of this ad were tricked. To be fair, at least the explanation was directly below the percentage figure, and the large type was easy to read.

Another problem with the ad became public in January 2008, when the news media reported that the United States Congress was investigating Pfizer. The ad had prominently featured a photo of Robert Jarvik, inventor

of the artificial heart, above a caption stating that he took Lipitor[®] and benefited from it. Dr. Jarvik appeared to be giving medical advice. But he did not have a license to practice or prescribe medicine. According to Congress, this was misleading, and manipulated readers.

One can only hope that the dangers of statins become even more publicized, and convince people to no longer be fooled (or frightened) into taking those drugs. When the *New York Times* ad appeared, there had already been several highly publicized class action lawsuits against Pfizer, Inc. All the complaints focused on the manufacturer’s attempts to deceive the public by failing to disclose potential “side” effects of Lipitor[®] that include possibly lasting muscle damage. The symptoms did abate for some plaintiffs after the drug was stopped, but other plaintiffs stated that they continued to suffer from fatigue and tingling in the hands and feet. Significantly, a lawyer representing 19 plaintiffs in one of the lawsuits stated that Lipitor’s[®] effectiveness in lowering cholesterol levels was not in dispute. He wrote:

Rather, these lawsuits charge that Pfizer failed to adequately warn both doctors and consumers of the drug’s more serious and sometimes permanent health risks—risks that Pfizer was well aware of in its own clinical studies of statin usage. Pfizer has apparently engaged in a campaign of misinformation, designed to downplay and cover up Lipitor’s[®] more serious and irreversible side effects, and is willing to promote the drug at any cost.⁴⁰⁰

Sadly, some of the court papers mentioned that although Lipitor® lowers blood cholesterol, there is no proof that the drug reduces the risk of heart disease in women or the elderly. In fact, the very people who are likely to take cholesterol-lowering drugs are those who are most at risk of damage from the drugs. In 2002, a physician with 17 years of medical practice wrote:

All patients taking statins become depleted in Coenzyme Q10 (CoQ10) eventually. Those patients who start with a relatively low CoQ10 level (the elderly and patients with heart failure) begin to manifest signs/symptoms of CoQ10 deficiency relatively rapidly, in 6 to 12 months. Younger, healthier people whose only “illness” is the non-illness “hypercholesterolemia” can tolerate statins for several years before getting into trouble with fatigue, muscle weakness and soreness . . . and most ominously, heart failure.⁴⁰¹

Lipitor® is only one of many statin drugs whose manufacturer has been sued. An Internet search I made at one time, using the keywords “statin,” “Bayer,” “Lipobay®” and “Baycol®,” yielded a wealth of reading material—and reports of settlements for over 3,000 lawsuits.

In the UK, some statin drugs can be bought without a prescription.

Lawsuits Against Tylenol®

Pain is big business. With so many Americans suffering from chronic inflammation (frequently caused by toxic chemicals and improper diet), it’s often perceived as easier to pop a pill to numb the pain than to make long-lasting, but more difficult and time-consuming changes. It’s for this market that painkillers were created.

After the first mass-marketed painkiller, aspirin, proved too weak to numb pain, acetaminophen was created. Sold as Tylenol®, Atasol®, Anacin-3®, Panadol®, and Excedrin® (which also contains aspirin and caffeine), acetaminophen is the most popular medicine in the US. But its negative effects are many and severe: significantly increased risk of high blood pressure in all age groups, fatal kidney failure, and liver failure (it depletes glutathione, which ordinarily protects the liver from poisons). In fact, a 2005 article, “Acetaminophen-induced acute liver failure: results of a United States multicenter, prospective study,” showed that acetaminophen caused 42% of all acute liver failure cases between 1998 and 2003.⁴⁰² Many of these people died.

Liver failure from this drug is so widespread that as of June 2013, 187 lawsuits have been filed against the manufacturers of Tylenol®, McNeil-PPC, and its parent company, Johnson & Johnson. Other suits are pending.

Lawsuits Involving Monsanto

Monsanto, sometimes called “Monsatan” by its critics, is responsible for altering the world’s food supply in horrific ways. In 2018 Monsanto merged with Bayer, with its name now eliminated by the merger. After briefly reviewing Monsanto’s history, we can guess why this was done.

Founded in 1901 by a pharmaceutical company veteran, Monsanto’s first product was saccharin, a carcinogenic artificial sweetener. In 1917, the US government sued Monsanto over the sweetener’s safety, but Monsanto won after a few years in court. By the 1920s, the company had expanded its product line to include industrial chemicals as well as drugs. Along with aspirin, the company manufactured polychlorinated biphenyls (PCBs), used as a lubricant and put into waterproof coatings. Widely known as the oil that would not burn, PCBs are highly toxic: they cause reproductive disorders, cancers, and immune system malfunction. At the time that Monsanto was manufacturing PCBs, it routinely discharged tons of the chemical into creeks and landfills, knowing of the dangers. The highest rate of fetal deaths in the country were recorded at the location of the primary manufacturing plant, in East St. Louis, Missouri, US. Today, fifty years after PCBs were banned, they are still found in human and animal blood all over the world.

In the 1950s, Monsanto created a toxic plastic that was used to create several buildings at Tomorrowland, a Disney theme park. When the time came to dismantle the buildings, the glass-fiber, reinforced polyester material could not be destroyed with wrecking balls, jackhammers, torches, or chain saws. The buildings could be removed only with choker cables, which, bit by bit, squeezed off pieces that were then hauled away in trucks.

Monsanto produced the pesticide DDT (now banned). In the 1960s, in partnership with Dow Chemical, Monsanto created a defoliant herbicide called Agent Orange. Sprayed during the Vietnam war to strip the leaves from all vegetation—presumably used to make it difficult for enemy soldiers to hide in the jungle—it also fell on American troops. The dioxin in Agent Orange has been responsible for millions of deaths, birth defects and continued illness, in both Vietnamese and Americans. Accused of knowing dioxin’s effects when it sold the chemical to the government, Monsanto insisted that its own research had proven the herbicide safe. But at a 2002 trial, a company memo was released: “The evidence proving the persistence of these compounds and their universal presence as residues in the environment is beyond question . . . the public and legal pressures to eliminate them to prevent global contamination are inevitable. . . . Where do we go from here? The alternatives: go out of

business; sell the hell out of them as long as we can and do nothing else; try to stay in business; have alternative products.”⁴⁰³

In 1997, Monsanto sold its chemical plants to focus on “biotechnology.” Its two branches of business were Agricultural Productivity, and Seeds and Genomics. The Agricultural Productivity department included Roundup® herbicide and other chemicals used in agriculture, along with the Animal Agriculture business. The Seeds and Genomics department consisted of seed companies and plant genetics technology. “In reality of course,” states the article, “Monsanto’s Dark History: 1901–2011,” “these two segments are inseparable, since the agri-chemicals are becoming increasingly dependent on the seeds segment for sales.”⁴⁰⁴ Monsanto continued to develop, promote and sell more types and amounts of its genetically engineered seeds so it could sell more glyphosate, otherwise known as Roundup®. (See Chapter 3, **Food**, for more details on genetically engineered or GE seeds made with GMOs, an acronym for “genetically modified organisms.”)

The World Health Organization defines GMO “foods” as “derived from organisms whose genetic material (DNA) has been modified in a way that does not occur naturally, e.g. through the introduction of a gene from a different organism.”⁴⁰⁵ Here are some highlights of GMO effects:

- ◆ Laboratory experiments with animals show that GMOs cause allergies, seizures, brain lesions, cancers, and reproductive disorders (sterility, miscarriages, birth defects, and 50% infant mortality rates). Offspring of animals who eat GE plants are smaller and sterile. GE soy has been found to deplete glutathione from the body, and when fed to hamsters, causes fur to grow inside their mouths. GE crops (and the glyphosate used on them) have killed huge numbers of several species of beneficial insects, as well as over one-half of

the world’s bee population where GMOs are planted. The beneficial flora living in the guts of humans (and animals) adopt the DNA of the GE feed. Glyphosate creates the neurotoxin formaldehyde when it degrades; causes fatal kidney damage (due to its ability to attract heavy metals); and (as shown by Dr. Stephanie Seneff’s research) damages the pineal gland, leading to autism.

- ◆ Scientists who have reviewed data from Monsanto’s own studies “have proven that genetically engineered foods are neither sufficiently healthy or proper to be commercialized.”⁴⁰⁶ Moreover, WHO, as well as Massachusetts Institute of Technology scientists, have publicly, unequivocally stated that glyphosate causes genetic damage that can lead to many forms of cancer.
- ◆ “Super weeds”—that is, weeds resistant to glyphosate—have emerged. This means that more Roundup® “needs” to be used on crops, and that the humans and animals who eat these plants are ingesting more Roundup® with their food.
- ◆ When given a choice between GMO and non-GMO feed, animals will refuse to eat GMO feed.
- ◆ Per acre, crops grown from GE seeds are more meager than even conventionally grown (and sprayed) crops.
- ◆ Some of the seeds produced by Monsanto are called “Terminator Seeds.” They produce sterile crops, so that if farmers saved the seeds from last year’s GE harvest (which a Monsanto contract they’re forced to sign makes illegal), they’re unable to grow new plants from those seeds. There are very few plants in nature that work like this; most are able to be pollinated.
- ◆ GE seeds have blown into the fields of farmers who never wanted them and never even planted them. However, this hasn’t stopped Monsanto from suing hundreds of farmers for patent infringement. Monsanto representatives have been known to sneak into the non-GMO farmers’ fields during the night, and take samples of the plants to determine if any of them were genetically engineered. Many farmers have committed suicide as a result of losing their livelihoods.
- ◆ The import, distribution and utilization of GMOs, entirely or partly, are banned in most countries outside the United States (although some other governments and their agencies, such as The Royal Society in the UK, have also aligned themselves with Monsanto). Several states in the US have passed laws prohibiting the presence of GMOs in any foods, but the US federal government has been working hard to overturn states’ rights over the “rights” of Monsanto to poison humans, animals, and the environment.

Probably the greatest threat from genetically altered crops is the insertion of modified virus and insect virus genes into crops. . . . genetic recombination will create highly virulent new viruses from such constructions. The widely used cauliflower mosaic virus (present in the GM soy and maize currently on supermarket shelves in the UK) is a potentially dangerous gene. It is very similar to the Hepatitis B virus and related to HIV. Modified viruses could cause famine by destroying crops or cause human and animal diseases of tremendous power.

—Dr. Joseph E. Cummins, Professor Emeritus (Genetics),
Department of Plant Sciences,
University of Western Ontario
and author, *Genetically Modified (GM) Food* (2006)
[organicconsumers.org/news/
new-book-genetically-modified-gm-food-guide-confused](http://organicconsumers.org/news/new-book-genetically-modified-gm-food-guide-confused)

- ◆ Monsanto has fought hard in the US courts to prevent products containing GMOs from being labeled—even though surveys show that over 90% of consumers want this labeling, believing that they have a right to know what’s in their food. The US government protects GMOs, no matter how much devastation they cause.
- ◆ Monsanto paid university professors and people in the sciences (such as \$25,000 to Dr. Kevin Folta, at the University of Florida) to say that GMOs are harmless and even beneficial. Articles exposing collusion between Monsanto and corporate groups operating under the guise of academia, as well as a photograph of Monsanto’s letter to Folta, are at GMO.news.

Attorney Steven M. Druker’s extensively documented 2015 book, *Altered Genes, Twisted Truth*, describes a 1996 lawsuit initiated by Druker and others against the FDA. As part of the disclosure process, the agency was legally forced to provide over 44,000 pages of reports, messages, and memoranda pertaining to GE foods. The FDA’s own files showed that even while knowing the risks of GE foods—for more than 30 years—the agency became an ally of the biotechnology industry and actively promoted its products. “I had compiled extensive evidence,” Druker writes, “of an enormous ongoing fraud.”

The FDA had ushered these controversial products onto the market by evading the standards of science, deliberately breaking the law, and seriously misrepresenting the facts . . . people were being regularly (and unknowingly) subjected to novel foods that were abnormally risky in the eyes of the agency’s own scientists.

This fraud has been the pivotal event in the commercialization of genetically engineered foods. Not only did it enable their marketing and acceptance in the United States, it set the stage for their sale in numerous other nations as well. If the FDA had not evaded the food safety laws, every GE food would have been required to undergo rigorous long-term testing; and if it had not covered up the concerns of its [own] scientists and falsely reported the facts, the public would have been alerted to the risks. Consequently, the introduction of GE foods would at minimum have been delayed many years—and most likely would never have happened.⁴⁰⁷

Monsanto has remained silent about Druker’s book, perhaps hoping that the public has simply become too ill to care that it was defrauded. “Or,” writes one investigative reporter, “perhaps the company is just too preoccupied

Seed Companies Not Owned by Monsanto (or as of 2018, the merged Monsanto-Bayer)

The following North American companies sell seeds that are not genetically engineered (GMO). Most of these companies do not purchase from Monsanto, from Monsanto-owned Seminis, or from Bayer (which merged with Monsanto and now conceals the Monsanto name). However, companies are being bought and sold all the time, so verify that these companies are still independent before you purchase.

See seedsave.org for smaller seed companies started by members of Seed School, and for information on seed libraries and how to save your own seeds.

- ◆ Amishland Seeds
- ◆ Annapolis Valley
- ◆ Baker Creek Heirloom Seeds
- ◆ Burpee (does purchase from Seminis, but sells open-pollinated and heirloom seeds, has a no-GMO policy, and tests to avoid contamination)
- ◆ Diane’s Flower Seeds
- ◆ Ed Hume Seeds
- ◆ Fedco
- ◆ Garden City Seeds
- ◆ Heirlooms Evermore Seeds
- ◆ Heirloom Seeds
- ◆ Heirloom Organics
- ◆ Heritage Seed Company
- ◆ Horizon Herbs
- ◆ Irish-Eyes
- ◆ J.W. Jungs
- ◆ Johnny’s Seeds
- ◆ Landreth Seeds
- ◆ Lake Valley Seeds
- ◆ Livingston Seeds
- ◆ Local Harvest
- ◆ Mountain Rose Herbs
- ◆ Organica Seed
- ◆ Park Seeds
- ◆ Pinetree
- ◆ Sand Hill Preservation Center
- ◆ Seeds of Change (owned by Mars Inc., but seeds are supposed to be non-GMO)
- ◆ Southern Exposure
- ◆ Sunshine Farm
- ◆ Sustainable Seed Co
- ◆ Territorial Seeds
- ◆ Tiny Seeds
- ◆ Uprising Seeds
- ◆ Virtual Farm Seed Co
- ◆ Wildseed Farms

with fighting lawsuits, trying to influence legislation by pouring money into campaigns, attacking critics, infiltrating public bodies, pouring more money into its PR spin machine, funding ‘travel expenses’ for pro-GM scientists, lobbying the EU to try to get GMOs into Europe, mounting a campaign against WHO-associated scientists, . . . managing its profits courtesy of the massive subsidies given to US farmers, [or] working with the Gates Foundation to uproot indigenous agriculture in Africa.”⁴⁰⁸

In 2000, the FDA won the lawsuit instituted by Druker. However, at least one lawsuit has had a just outcome. In California, as part of his school groundskeeper job, 46-year-old Dewayne Johnson had been required to regularly handle Roundup® weed killer. Even though he wisely used protection, he still contracted non-Hodgkin’s lymphoma. So in August 2018, a California jury ordered Monsanto to pay Mr. Johnson \$289 million for failing to properly label the product and acting with malice and oppression due to its reckless disregard for human life. Of course, Monsanto is planning to appeal.

Monsanto’s sales offices, factories and research centers (in over one hundred countries) have multiplied since its merger with the Bayer corporation. Bayer also has a dark history. Known as I.G. Farben during World War II, Bayer used Jewish slave laborers, manufactured the poison used in gas chambers to kill concentration camp prisoners, and its scientists (later convicted for war crimes) experimented on prisoners. Today, Bayer sells over 90% of the world’s genetically modified seeds and most of its pesticides and herbicides. The corporation is also working hard to receive patents for the DNA of both animals and humans.

Granting Legal Immunity

The FDA has protected drug companies so rigorously that ethical US government officials finally began to notice. So did the press. *New York Times* reporter Gardiner Harris, who often writes about medical politics, wrote in 2004:

The chairman of a House committee angrily accused the Food and Drug Administration on Thursday of withholding documents on the effects of antidepressants on children. Holding a copy of an e-mail message from an agency official instructing others in the agency not to unearth documents, . . . Joe L. Barton . . . said it demonstrated that the agency was deliberately defying the panel. He threatened to ask police officers to go to the agency’s offices to retrieve the records.

“The FDA’s lack of cooperation with the committee in obtaining relevant and responsive

information in a timely fashion on a matter that involves the safety of our children leaves me wondering whether this is sheer ineptitude or something far worse,” Mr. Barton said. . . .

Seven top executives from drug giants like Pfizer, Wyeth and Glaxo-SmithKline were sharply questioned about why the companies had collectively failed to publish or publicize results of studies showing that their drugs had not proved effective in treating depressed teenagers and children.⁴⁰⁹

As one might expect, with the rapid escalation of such negative publicity, the FDA began to defend itself. In July 2006, a *New York Times* headline read, “FDA Rules Will Regulate Experts’ Ties to Drug Makers.” The agency apparently stated that new rules would make it:

impossible for experts who get money from drug makers’ marketing departments to serve on advisory committees. That would exclude, for instance, anyone who was paid by the marketing departments to promote drugs. . . . [However] Agency officials said they had no intention of excluding all advisers with ties to drug makers.⁴¹⁰

In other words, the FDA had no intention at all to behave ethically, as its continued behavior has proven. For now at least, consumers of pharmaceuticals are unprotected. Even in cases of serious damage or death, as long as drugs or medical devices have been approved by the FDA, pharmaceutical companies have no legal liability, even if:

- ◆ The item’s label is insufficient or deceptive.
- ◆ Approval of the drug/device has been based on incomplete testing.
- ◆ The company had misled the FDA into approving the product by submitting falsified reports.
- ◆ The FDA received reports of damage or death associated with the products.
- ◆ The FDA failed to warn of the product’s dangers after receiving complaints.

Big Pharma’s glaring misdeeds are becoming more visible than ever. Before reaching for the medicine cabinet to pop a pill, or seeing your doctor for an injection, consider how many drugs you really want to be taking—and ultimately, if the risks are worth it, particularly when there are safe and effective alternatives. The rest of this book discusses our options; but for now, let’s briefly examine some more problems.

DRUGS WHERE THEY'RE NOT INTENDED

It's bad enough that most drugs don't work and have undesirable "side" effects. But at least those of us who choose not to medicate ourselves don't have to—right? Not exactly.

Antibiotics in Food

Many people who are afflicted with an infection find it comforting to take antibiotics. According to Null and colleagues, in the United States between 3 and 5 million pounds of antibiotics are used on humans every year. "With a population of 284 million, . . . this amount is enough to give every man, woman and child 10 teaspoons of pure antibiotics per year."⁴¹¹ The misuse of antibiotics is rampant. Almost half of the people with upper respiratory tract infections receive antibiotics from their doctor, even though the CDC cautions that 90% of these infections (including children's ear infections) are viral. Antibiotics cannot destroy viruses.

Alas, humans are not the only ones given antibiotics. In 2003, Null et al. reported that about 25 million pounds a year were used on animals raised for food—and that of this amount, over 23 million pounds were given not to treat disease, but to try to prevent it (as well as to stimulate growth). By 2009, according to the FDA, the number of pounds of antibiotics used on animals raised for food had climbed to 29 million pounds. Put another way, farm animals get 80% of all antibiotics sold in the US.⁴¹²

The need for disease prevention is due to the unnatural and stressful conditions under which factory farmed animals are forced to live. These animals are confined in crowded quarters, with a deficit of sunshine and fresh air, and forced to consume food they were never meant to eat. This is discussed more in Chapter 3.

Overuse of antibiotics, Null and colleagues reported:

[results] in foodborne infections resistant to antibiotics. Salmonella is found in 20% of ground meat but constant exposure of cattle to antibiotics has made 84% of salmonella resistant to at least one anti-salmonella antibiotic. Diseased animal food accounts for 80% of salmonellosis in humans, or 1.4 million cases a year. . . . Approximately 20% of chickens are contaminated

with *Campylobacter jejuni* causing 2.4 million human cases of illness annually. Fifty-four percent of these organisms are resistant to at least one anti-*Campylobacter* antimicrobial.⁴¹³

We've known for two decades ago that the antibiotics people are forced to eat and drink have conferred antibiotic resistance in germs. In Scandinavia and other parts of the world, it has been found that decreasing the amount of antibiotics given to animals has little effect on food production costs. However, the US has not shown the same incentive in minimizing or eliminating this practice.

Excess antibiotic use has even affected plants. Both organic and conventional crops that are grown with manure from antibiotic-fed animals are taking in the drugs through their roots. Thus, whoever eats the plants takes in unwanted drugs as well.

Drugs in Drinking Water

People who are careful to limit their intake of pharmaceuticals, or who avoid taking them entirely, may still unwillingly ingest all kinds of drugs every time they take a sip of water. Detectable levels of drugs exist

in virtually every body of water today, worldwide. According to the Environmental Protection Agency, whether the river, lake, creek, aquifer or groundwater is urban or rural, obviously dirty or seemingly pristine, it contains drugs. Our water also contains drug metabolites, which are byproducts, produced by the body, of the primary ingested chemicals.

How do drugs get into our water supply? The metabolites are excreted in urine. Hospital personnel flush expired and unused medications down the toilet. Consumers are

sometimes advised to do the same. Drug companies pump waste from the manufacture of pharmaceuticals into nearby, convenient water bodies. These chemicals are not removed by most municipal filtering systems, which use even more chemicals to treat the water rather than the much safer, and very effective methods using carbon filtering, ultraviolet light, and ozone.

"An aging population and our growing addiction to pharmaceuticals may have disastrous consequences for our water supply," writes Elizabeth Royte in "How Prescription Drugs Are Poisoning Our Waters." She describes how massive amounts of drugs move through the systems of the elderly into the water system:

Since [US President] Obama appointed his crony Margaret Hamburg as FDA Commissioner in 2009, the FDA has collected over \$2.3 billion [in donations] from major drug companies including Bristol-Myers, Merck, Johnson & Johnson, Pfizer, GlaxoSmithKline, and Eli Lilly.

—Jenny Thompson
Director, The Health Sciences Institute
(undated quote)

Heritage Village [is] a sprawling retirement community in western Connecticut. . . . [Its approximately 4,000 residents] take an average of six drugs a day. And that's a healthy population.

In a convalescent home a few miles away, Patricia Reilly, age 88, wheels herself each morning toward a low shelf. With a glass of water and small cups of applesauce at the ready, she prepares to take her morning medicines: nine different types that treat heart disease, acid reflux, renal stones, a chronic urinary tract infection, chronic constipation, migraine headaches, depression, allergic rhinitis, degenerative arthritis, and intermittent vertigo. The 120 residents of River Glen Health Care Center, where the average age is 90, take an average of eight drugs a day; the most common among them target high cholesterol, high blood pressure, depression, and diabetes. Once swallowed, . . . [the medicines'] biological activity won't stop once they leave her body.

When residents of Heritage Village and two other nearby retirement communities flush their toilets, wastewater laced with traces of prescription drugs rushes through a series of pipes into the Heritage Village treatment plant. . . . Through a process of settling and aeration, the Heritage Village plant separates liquids from solids, treats the liquid portion with disinfectant, and then discharges this effluent into a mini-creek . . . The effect of those drugs on the environment, and possibly on those who drink water pumped from those streams, is only beginning to be understood.⁴¹⁴

The effects of environmental medications are extensively documented. These examples are summarized from Royte's article.

- ◆ A Baylor University researcher found tiny amounts of Prozac® in liver and brain tissue of channel catfish and in black crappie captured in a creek near Dallas, which receives almost all of its flow from a wastewater treatment plant.
- ◆ A University of Georgia scientist found that tadpoles exposed to Prozac® morphed into undersize frogs, vulnerable to predation and environmental stress.
- ◆ The EPA reports that antidepressants can have a profound effect on spawning behaviors in shellfish, and that calcium-channel blockers (used to relieve chest pain and hypertension) can dramatically inhibit sperm activity in some aquatic organisms.

- ◆ Even at extremely low levels, ibuprofen, steroids, and antifibrotics (drugs that help reduce the development of scar tissue) block fin regeneration in fish.
- ◆ According to a report by the Scientific Committee on Problems of the Environment and the International Union of Pure and Applied Chemistry, more than 200 water and land species have suffered adverse endocrine disruption due to medicinal and synthetic estrogens.

Fish, frogs, and lab rats aren't the only life forms that are negatively affected by drugs. People are being affected too—on behavioral, cognitive, immune, neurological, and reproductive levels. Mercury, produced from the burning of coal and hazardous waste, the manufacture of chlorine and cement, and the refining of metal, is in our water supply as well as in vaccines and dental amalgams. Another long-term danger is synthetic estrogen in the environment, found in medicines and in most plastic containers that store foods. Not only does synthetic estrogen cause lowered sperm counts in males, but it feminizes male infants and children and even adult men. Males may suffer not only enlarged breasts, but also psychological damage. High levels of synthetic estrogens are flooding male (as well as female) fetuses, and this affects brain structure and function. Some practitioners are beginning to wonder if this hormone mismatch is partly behind the growing trend toward transgenderism, the feeling that one is born into the wrong-sex body.

Generally, a health risk assessment is based on the analysis of one chemical at a time. But this approach doesn't accurately reflect exposure to many chemical compounds at once. A 2002 US Geological Survey found traces of 82 different contaminants—including drugs, fertilizers, and flame retardants—in surface waters across the United States. The drugs included antibiotics, antidepressants, hormones, blood pressure pills, and painkillers.

Toxicological expertise now exists to assess the effects of many chemicals combined, which is how they are found in our environment. Whereas a single chemical might not have produced an effect, it takes lesser amounts, and lower levels of exposure, to produce symptoms when someone is exposed to chemical stew.

"I'm worried for fish populations, and I'm worried for human populations," says environmental endocrinologist David Norris. "The levels found in Boulder Creek [a body of water he studied] are low in absolute terms, but they aren't low on the biological level. You could have six chemicals below the no-effect level, but all together they are above the no-effect level."⁴¹⁵ This is why our symptoms from chemical cocktails are considered iatrogenic disease by Null and his colleagues.

ELECTRONIC MEDIA AS A DRUG

Sonograms

It must be hard being a child or teenager today, especially in a highly industrialized nation like the United States. Here, even young children are impacted by national debt and poverty (one in forty-five children is homeless). Wars and civil unrest have regularly become front page headlines, causing many children to grow up with anxiety about their uncertain futures. The average person's diet is laden with sugars, artificial chemicals and dyes that cause hyperactivity, cancers and other health problems (discussed in depth in Chapter 3). Many people are too poor to buy foods that are organic, or which at the very least don't contain GMOs. Plus, meaningful education is often elusive. People experience the most intense growth spurt of their lives when they're children and they need to discharge their boundless energy in physical ways. Yet instead, they must endure hours of classes that are usually boring and irrelevant. Unable to tolerate what no adult would willingly undergo—sitting still in what amounts to an indoor prison—children are labeled “ill” and forced to take mind-altering drugs. It's no wonder that electronic media has provided such a respite from the world and its ills. Never in human history have so many children grown up wired and plugged in, even before birth.

The first direct exposure to electronics occurs in the womb. In technologically advanced nations, pregnant women usually receive one or more *ultrasound* tests, each of which produces a picture called a *sonogram*. Ultrasound uses very (“ultra”) high frequency sound waves above the range of human hearing, ranging from 1 or 2 MHz (megahertz) to 18 MHz. (The lower the frequency, the more the signal penetrates. The higher the frequency, the less the signal penetrates.) Ultrasound machines generate sound waves in pulses of less than one ten thousandth of a second. Pulses are utilized because a continuous sound wave can generate too much heat in the tissue.

There are many applications for ultrasound. Depending on what frequency range is being employed, ultrasound can promote growth (such as regenerate bone) or destroy material (such as break apart kidney stones or gallstones). Ultrasound can also heat tissue to the point of causing damage. It can induce neurons to misfire, and poke holes in cell membranes.

Using common sense, why would anyone think that intruding upon the continuous, seamless development of the fetus, which has for millions of years completed its work without assistance, be without consequences?

—Caroline Rodgers

“Questions About Prenatal Ultrasound and the Alarming Increase in Autism”
Midwifery Today, Winter 2006

The application of ultrasound that's pertinent to our discussion is its ability to create an image of an object or structure inside the body. That image can be the stomach, liver, heart, gallbladder, a muscle—or a developing baby. The sound bounces off an object, and produces a picture based on the object's density and shape.

Originally designed for industrial use to detect flaws in metal, ultrasound for medical purposes was first used by a Scottish obstetrician in 1955. He initially experimented on various tumors, which he found produced different echoes. Soon after, ultrasound was aimed not only at women's abdominal tumors, but also on their pregnant bellies. Justified as useful for detecting abnormal or insufficient growth in developing fetuses, the test became standard (and big business) in industrialized countries. However, no scientifically valid tests for safety were conducted. Just as with X-rays—which pregnant women were receiving for 50 years (to assess fetal size) before it was discovered that the X-rays were causing birth defects—it was simply *assumed* that ultrasound was safe.

But now, some researchers are finally acknowledging the complexities of how ultrasound actually works and the negative consequences of using it. The question is whether doctors and expectant parents are listening.

The physical effects of ultrasound include both its pressure on the water within and surrounding a given cell, and through the creation, oscillation (spinning), and implosion of bubbles in that same liquid. The latter is referred to as “cavitation” or the creation of a gaseous cavity within the liquid. Cavitation and noncavitation effects together can poke transient holes in cells, activate certain molecular pathways within those cells, cause temperature increases when the bubble violently implodes, promote the creation of free radicals (oxidation) when that gas escapes into the surrounding medium which can subsequently damage or even kill a cell, can cause general disarray within the cell, and at certain intensities may even promote mutations of DNA.

Most of the deadly effects on cells are generally not seen at diagnostic intensity levels. However, there is still the potential that ultrasound is altering how normal cells develop and behave. That is, it doesn't kill them, but it may very well change them.⁴¹⁶

Is the fetal reaction to ultrasound considered important? No, even though developing infants instinctively tend to move away from the stream of high-frequency sound waves (which should be a clue that the stimulus is harmful.) In 2004, the FDA warned that “ultrasound is a form of energy, and even at low levels, laboratory studies have shown it can produce physical effect in tissue, such as jarring vibrations and a rise in temperature.”⁴¹⁷ (Author Caroline Rodgers quotes this directly from an FDA web page she reported accessing in 2004. Yet, an Internet search I conducted eleven years later produced a version of the original page that did not include this passage.)

“Fetuses can hear ultrasound examinations” is the self-explanatory title of a *New Scientist* article published in 2001. Researchers inserted a tiny hydrophone inside a woman’s uterus while she was receiving an ultrasound. “Sure enough, they picked up a hum . . . similar to the highest notes on a piano. . . . When the ultrasound probe pointed right at the hydrophone, it registered 100 decibels, as loud as a subway train coming into a station. ‘It’s fairly loud if the probe is aimed right at the ear of the fetus,’ says [a research doctor, James] Greenleaf.”⁴¹⁸

Ultrasound can cause dyslexia, epilepsy, learning difficulties, and delayed speech in the infants. Women exposed to ultrasound have an increase in spontaneous abortions and stillbirths. In “Randomized prospective trial comparing ultrasonography and pelvic examination for preterm labor surveillance,” the authors write:

The overall rate of prematurity was 18%. Preterm labor was more frequent with ultrasonographic evaluation (52%) than with pelvic examination (25%) . . . In this prospective randomized study of patients at risk for preterm birth, patients under surveillance by ultrasonographic assessment of the cervix did not fare better than those assigned to bimanual examination.⁴¹⁹

Sonograms harm more than just the fetus exposed to the technology. In “Ultrasound—The Mythology of a Safe and Painless Technology,” presented to the Royal Society of Medicine in the UK in 1995, the speaker stated: “the subtle effects of ultrasound may not emerge until the next generation. No one mentions to women that when they are scanned their baby is already carrying the next

generation’s eggs, so when she becomes pregnant those eggs have already had x numbers of ultrasound scans.”⁴²⁰ The dangers of ultrasound technologies have been known for decades, but the medical establishment has chosen profits and the mechanization of medicine over people’s health. Ultrasound testing isn’t even very accurate. It produces a significant number of “false positives” for defects, making it a highly imperfect diagnostic tool.

Thus sonograms hurt the very baby that expectant parents are so eager to welcome into their lives. Ironically, a large number of these parents request a sonogram not to discover (and then possibly treat) a medical condition, but to have a “fun” photo—or even better, a series of photos—to document the growth of their child! This powerful, hazardous equipment has lost all pretense of having a medical purpose and is instead treated as entertainment: intrauterine photography. Note that the FDA’s current, restrained website page still cautions parents that to order a sonogram merely to possess a “keepsake” photo is a misuse of the medical testing (even though, the FDA still insists, the procedure is not dangerous).

Increasing concern has arisen regarding the fetal safety of widely used diagnostic ultrasound in obstetrics. Animal studies have been reported to reveal delayed neuromuscular development, altered emotional behavior, EEG (brain wave changes, anomalies, and decreased survival. Genetic alterations have also been demonstrated in *in vitro* systems.

—Marion Finkel, MD, 1979

Director, FDA Division of Metabolic and Endocrine Drugs,
then Deputy Director of the Bureau of Drugs,
and (later in 1974) head of New Drug Evaluation

Effects of Electronic Distractions

In our media-oriented, entertainment-happy culture, ultrasounds condition us to invite further bombardment from all kinds of electronic gadgets. Children clamor for (and receive) iPhones®, iPods®, video games, tablets, and computers. With these amazing devices, anyone can access information, diversion, amusement, escape, and people all over the world. While these activities can be enjoyable, the electronics are also playing a decisive role in harnessing people’s energy and even directing their minds. When used in excess, especially by children and teenagers, these devices can stunt growth as palpably as a poor diet.

Old style computers, TVs, and video games didn’t have flat screens. Bulky, heavy and rounded, the monitors utilized cathode ray tube technology at relatively high voltages, emitting a wide spectrum of noxious radiation including extremely low frequencies, “soft” X-rays, and radio frequencies existing within certain dangerous bands on the electromagnetic spectrum. While the newer flat screen technologies don’t emit these harmful wavelengths, they do cause damage.

Impaired Cognitive Abilities

Constant bombardment by electronic media can impair intelligence. I'm not just talking about content (although that can certainly decrease creative, original, and rational thinking!). I'm referring to visual bombardment, which affects the brain in some unexpected ways.

The visual cortex of the brain occupies a huge amount of space, compared to other areas. About 50% of the brain's nerve fibers are directly or indirectly linked to vision; and when the eyes are open, two-thirds of the brain's electrical activity is devoted to vision. Neurodevelopmental optometrist Merrill D. Bowan writes, "Vision is a bully: it tries to persuade our brain that what it is sensing through vision is the only reality, whether its perception is accurate or not." As an example, he cites what happens when the eyes look through a special pair of optical prisms. They "not only change the apparent shape of a vertical edge, but also how it feels"—in other words, one's *kinesthetic* sense, or perception of the position, weight, and movement of the body in space. One's kinesthetic sense doesn't exist independently of vision. When the eyes look through these prisms,

the edge will now actually feel bowed to the vast majority of people. Closing the eyes will extinguish the feeling of bowedness, and opening them restores it once again. Vision is integrated with the other senses and dominates them so fully that the brain has to almost stop, figuratively, and weigh the visual input with the proprioceptive [body sensing], the auditory and to a lesser extent, the gustatory and the olfactory data to be assured that the perceptions we're processing is accurate. As kids might say these days, "Vision Rules!"⁴²¹

Vision plays such a huge role in how we respond with our other senses, that learning—especially for infants, young children and teens—should ideally integrate the visual, auditory, and kinesthetic (tactile and movement) senses. Each sense exponentially adds to the enrichment of the others, which is why the best teaching environments for babies and children are multifaceted. When more than one area of the brain is used at the same time, neural pathway connections are created between these areas, which makes us smarter.

The complexity of the brain helps explain why language (to use one example) is based not only on auditory input, but also on vision, plus the ability to mentally process and interpret that visual input. In fact, the brain is so complex that even brainwaves are intimately connected to vision—which by definition includes eye movements.

The number and type of eye movements required to take in an entire, compressed scene on a computer or TV screen are vastly fewer—and different—from movements the eye would make if it were scanning the natural environment. Even if the TV is a huge widescreen model, the screen remains at a fixed distance. In comparison, for someone who's outside, the range of eye movements varies tremendously. The eye is constantly shifting: side to side, up and down, and from close to far away and back again. By definition, one cannot obtain this depth and breadth of field when viewing a stationary screen.

Simply put, *abnormal eye movements create abnormal brain wave patterns*. This is what prompted one academic to write: "Since the brain is organizing during the first years of life and since human beings evolved responding to three-dimensional stimuli, I wondered if exposing toddlers to lots of colorful two-dimensional stimulation could be harmful to brain development."⁴²²

A surprisingly large number of studies have indeed confirmed that "two-dimensional stimulation"—in this case, television—can harm the brain's development. One of the best studies, published in the April 2004 issue of *Pediatrics*, had the self-evident title of "Early Television Exposure and Subsequent Attentional Problems in Children." This was an important study because it was longitudinal—in other words, there was long-term follow-up. Researchers monitored the progress of 1,278 one-year-olds and 1,345 three-year-olds to the time they reached 7 years of age. At the end, their status was tallied. A total of 10% of all the children suffered from "attentional problems."⁴²³

A report on the same research appeared the following year in another publication, *Journal of the American Medical Association: Pediatrics*, titled "Children's Television Viewing and Cognitive Outcomes: A Longitudinal Analysis of National Data." The text of this study, which appears online in its entirety, is worth excerpting. "A large number of studies have reported deleterious effects of children's television viewing on outcomes such as obesity, inactivity, attentional problems, aggression, and sleep patterns." After statistically adjusting for "parental cognitive stimulation throughout early childhood, maternal education, and IQ," the authors concluded that "each hour of average daily television viewing before age 3 years was associated with deleterious effects" on several tests that measure reading recognition, reading comprehension, and intelligence.⁴²⁴

The authors were very careful to distinguish between educational and non-educational television programs. "Children who watch episodes of educational television, such as *Sesame Street*, *Mr. Rogers' Neighborhood*, and *Blue's Clues*, demonstrate improvements in educational domains

The Brain Changes in Response to the Environment

In some experiments, researchers studying the effects of enriched environments on rat brains found that laboratory-raised rats (in cages) that were exposed to interesting social interactions and varied activities, developed brains that were heavier and denser than the brains of their unenriched counterparts. In other experiments, rats taught how to navigate mazes yielded similarly more intricate brains than their unschooled counterparts that were not exposed to multifaceted environments. But wild rats had the heaviest, and most complex, brains of all. The types of socialization and activities that the wild rats enjoyed affected the density of nerve cells in many regions of their brains, including the corpus callosum (a rope-like structure that separates the right and left hemispheres), and in the cortex (learning center). These changes occurred regardless of how old the rats were.

Simply put, the brain can grow neurons, and develop new pathways of connections, in response to beneficial stimuli and learning. In "Response of the Brain to Enrichment," neuroanatomist Marian C. Diamond states: "Before 1960, the brain was considered by scientists to be immutable, subject only to genetic control. . . . By 1964, two research laboratories proved that the morphology and chemistry of the brain could be experientially altered. . . . Since then, the capacity of the brain to respond to environmental input, specifically 'enrichment,' has become an accepted fact among neuroscientists, educators and others. . . . It is essential to note that enrichment effects on the brain have consequences on behavior."⁴²⁵

Neurodevelopmental optometrist Merrill D. Bowan writes: "Input modifies brain structure, which further modifies the response. . . . The brain has been treated as though it alone impacts behavior, but the exciting new direction in neuropsychological research is that behavior has durable impact on the brain."⁴²⁶

Some scientists, but not all, have known about the "plasticity" of the brain for decades. Now it's time for the rest of the scientists, the medical establishment, and the public to become aware as well. This understanding has enormous healing implications for people with brain injuries and other neurological damage—or for those who have simply watched too much mind-numbing TV or played too many video games.

immediately afterward."⁴²⁷ The socioeconomic status (SES) of the children was also examined, because people in different economic and social groups use television differently. "A longitudinal Swedish study reports that 'high achievers' used television as a complement to school learning, whereas 'low achievers' used television as a substitute for it. . . . Television viewing in a general population may serve to exacerbate disparities in cognitive outcomes between high-SES and low-SES households."⁴²⁸ [emphasis added]

In general:

Heavy television viewing by children is worrisome because of the possible negative effects of such viewing on cognitive outcomes. A randomized trial of television reduction among 6-year-olds showed a modest, but significant, improvement in performance IQ and attention time on cognitive tasks associated with experimentally induced reductions in television viewing over a 6-week period. First graders who depended heavily on television and video games for narrative foundations in a story-writing workshop were less able than other students to develop their skills throughout the course of the workshop, and the problem was disproportionately characteristic of minority students. Television and video have been shown to discourage reflection and interpretation and to depress imagination and creativity. . . . For very young children the [TV watching] effects are negative, while for preschool children they can be constructive, at least in some domains. . . . The American Academy of Pediatrics . . . recommends no screen time for children younger than 2 years and only high-quality, age-appropriate [educational TV] viewing thereafter. Clearly, a very substantial portion of television as it is actually watched by children does not meet these recommendations. . . . Parents may need to be advised to undertake greater efforts to steer their children toward educational television and/or reduce overall television viewing time.⁴²⁹

Educational TV can indeed be beneficial. A 2015 study, "Early Childhood Education by MOOC: Lessons from Sesame Street," showed clear "evidence that watching the show generated an immediate and sizeable increase in test scores. . . . *Sesame Street* accomplished its goal of improving school readiness; preschool-aged children . . . were more likely to advance through school as appropriate for their age. This effect is particularly pronounced for boys and non-Hispanic, black children, as well as children living in economically disadvantaged areas."⁴³⁰

There's one more aspect of impaired brain function I want to mention. In 2006, New York state economics professor Michael Waldman was sorely challenged when four months after his daughter was born, his 2½-year-old son was diagnosed with autism. Waldman explored the home environment to see if anything had changed (besides the recent birth itself). He realized that because of the new baby, he and his wife were unable to pay as much attention to their son as they had prior to the birth. "[My son] had been watching much more television during that time, because we were so busy with my daughter. So I turned off the TV," Waldman remarked. "On a day to day basis, we didn't notice a change. But week to week and month to month, the change was dramatic. He was making rapid progress. Within six to eight months, all of his attention and language problems were gone."⁴³¹ After doing research, Waldman understood that autistic children suffer from highly abnormal activity in the visual-processing areas of the brain. So he and two colleagues investigated further to determine if autism was in any way related to TV watching.

What Waldman and his colleagues found was that the rise in childhood autism coincided with the popularity of VCRs and cable TV in the 1980s. Then they wondered if the rise in autism also correlates to bad weather, because it increases the amount of time that children spend indoors and are thus likely to watch more TV. They indeed did find that in rainy and snowy areas of the US, children watched more TV. And yes, there was a rise in autism rates.

Our precipitation tests indicate that just under forty percent of autism diagnoses in the three states studied is the result of television watching due to precipitation, while our cable tests indicate that approximately seventeen percent of the growth in autism in California and Pennsylvania during the 1970s and 1980s is due to the growth of cable television. These findings are consistent with early childhood television viewing being an important trigger for autism.⁴³²

To be fair, the authors did mention the possibility of indoor toxins, and not TV, which would affect the children adversely. And in a later, 2012 paper, "Positive and Negative Mental Health Consequences of Early Childhood Television Watching,"⁴³³ they hypothesized that the lack of sunshine (and hence, Vitamin D) could also contribute to autism.

As you might imagine, Waldman's papers were not well received by most of the establishment medical community (or the entertainment industry!), which used his profession as an economist to discredit his theory. Not many parents wanted to consider that he could be right, either. Of course autism can have numerous triggers: vaccines, poor nutrition, chemical exposure. And of course, not every child who watches a lot of TV develops autism. But at the very least, the impact of increased TV viewing on impaired cognition in general—whether or not it's autism specifically—cannot be denied. Note that the Amish, which is a religious group that lives simply and doesn't use electricity or watch television (or vaccinate), has almost no cases of autism.

Abnormal eye movements are also produced during video games, due to the spinning, twirling, flashing, shattering, zig-zagging, and exploding of objects. Without natural eye movements, over time our brain function—and hence our thinking processes—can become impaired from video games, whether they are played on a TV, iPad®, or iPod®.

When I got
my first television set,
I stopped caring so much
about having close
relationships.

—Andy Warhol
American artist, leader in the
pop art movement who used
advertising icons and symbols
(1928–1987)

Hypnotic Suggestibility

Television programs and films can lull the viewer into a mild, or even deep, hypnotic trance by using sound and light. The sound is often loud music with a rhythmic, repetitive beat. Advertisements interspersed with the "regular" programming use sound—mostly abnormally loud, fever-pitch speech patterns (characteristic of all audio-content ads)—to make the audience fixate on the message. The light takes the form of images that appear onscreen rapidly, often in visually dizzying ways. They can appear in rhythmical patterns, just like the music.

A hypnotic state can also be caused by the television's flicker rate. *Flickers* are the visible on-off pulses, or cycles of light, in the pixels—tiny modules comprising the picture—that are in some types of TV screens. The pixels, needing to be "refreshed," are switched on and off very rapidly. (Old style cathode ray tubes had very noticeable flickers. In modern plasma screens, electrons excite gases in the modules at regular intervals. The more expensive modern TVs have faster pulse rates than cheaper ones.) Tests measuring flicker rates concluded that some of these flickers induce alpha brain waves, whose range is between 8 Hz and 12 Hz (Hertz, or cycles per second). The brain becomes *entrained*—brought into the same rhythm—by these pulsed signals, whether they're in the form of sound, recognizable images, or flickering light.

iPhones and iPads Stunt Children's Growth

Every 30 minutes spent in front of a screen can delay speech development by 49 percent in children younger than two . . .

By the age of two or three, infants should typically be able to communicate in sentences between three to four words. However, [researchers found that] children who spent a majority of their time on handheld devices struggled with their communication skills. . . .

Every hour an infant spent on a smart tablet device was linked to 16 minutes of less sleep . . . [because the] light emitted from these devices suppresses the production of the sleep hormone, melatonin. . . .

During the first few years in life . . . essential neural pathways are built. Between the ages of zero and two, the infant's brain triples in size. Typically this is the time when the child learns how to interact with a parent's touch, voice, and other external stimuli. However, . . . children who merely just interact with a computer screen . . . lack concentration and often find it difficult to develop deeply personal relationships.

—Rhonda Johansson

"Parents! Stop letting your children use iPhones and iPads,"

Natural News, August 17, 2018

naturalnews.com/2018-08-17-parents-stop-letting-your-children-use-iphones-and-ipads.html

Hypnotists purposely induce an alpha state—trance—in their clients, so they can more easily plant suggestions in the person's subconscious mind. This is done at the request of the client, who has purposely enlisted the hypnotist's aid to achieve a desired goal. But what if a TV watcher isn't aware of receiving a subliminal message, while being in a TV-induced alpha state?

Video games create the same issues. Viewers are overloaded with information; everything, positive or negative, goes right into the brain. One study of video games revealed a lowered blood flow in the brains of players. Might this reduce (or reflect) a loss of emotional control and the inability to resist subliminal input? All advertising uses the principles of hypnosis. If someone is repeatedly bombarded, the message is "programmed" right into the brain. This rarely occurs on a conscious level.

Hyperarousal

Electronic media can induce both hyperarousal and hypnotic effects on the brain. Hyperarousal, which like its counterpart manifests as biochemical and neurological changes, occurs in response to many different types of media: films, TV programs and computer games, especially those of the horror or violent genres. Following is a brief summary of the arousal mechanism.

Normally, during a frightening, dangerous or potentially threatening situation, adrenaline—the fight-or-flight hormone secreted by the adrenal glands—is stimulated to impel the person to fight or flee. The *sympathetic nervous system*—which is the defensive aspect of the autonomic (automatic, or involuntary) nervous system—is also stimulated. Among the many physiological responses, the pupils dilate (allowing more light to enter the pupil, so the individual is literally blinded by fear). The saliva glands slow or stop saliva production, making the mouth literally dry with fright. Oxygen consumption increases. Even the digestion slows or stops.

Extreme stress changes our biochemicals too. The calming neurotransmitter *serotonin* is decreased, which increases the vigilance and startle responses. The neurotransmitter *glutamate* is released into the brain, which is responsible for feelings of dissociation, numbness, addictions, panic, and anxiety. GABA (short for *gamma-aminobutyric acid*) is a natural tranquilizer, the counterpart of glutamate. It makes us feel peaceful and easygoing. When glutamate levels rise, GABA levels fall. Glutamate levels also rise when the cell receptors become less sensitive to GABA—which, again, occurs under stress.

Normally, when the source of danger or stress passes, adrenaline secretion ceases, the relaxation neurotransmitters again flow and calm the brain, and the body shifts into the *parasympathetic nervous system* mode (the relaxation side of the autonomic nervous system). Problems begin if the danger continues. The fight-or-flight response is designed for short periods, because "constant danger" is a contradiction in terms and the body was never meant to remain in a chronic survival mode without rest periods. But with repeated, high-energy fight-or-flight stimulation, two things commonly occur. The neurotransmitters that help us feel relaxed, creative and optimistic become depleted. And the adrenals become depleted, eventually shutting down altogether.

What happens to individuals who have exhausted their reserves? Living in a state of unease due to unbalanced neurotransmitters, they develop addictions such as coffee, sugar, stimulants, drugs, or computer games. They might be regarded as addicts because of their need for stimulation, but they're attempting to respond to a legitimate biological need: the replenishing of their adrenal hormones and brain neurotransmitters. The psychological counterpart to this physiological numbing and depletion is usually emotional numbing and depletion. One might feel a need to increase the amount and intensity of stimuli in order to make any adrenaline at all. You may have heard someone say, "I don't feel alive unless I'm putting myself in danger." Some people become thrill seekers, engaging

in high-energy sports that carry a risk of injury or loss of life. Others might gravitate toward violent video games and films in an attempt to force their bodies to produce the biochemicals that have become drained. This is why susceptible children who are constantly exposed to violent acts become *desensitized*, or less emotionally affected by them. Such individuals may feel an increased need for more violent media—or actually seek real violence in their personal lives—simply to feel “alive” again.

Those who claim that the media’s portrayal of murders and other horrific crimes does not foster additional violence in real life, point out (with some justification) that an unloving family life, poverty, and poor diet could account for violent crime. They say that watching violence, or behaving in violent ways vicariously through make-believe characters, actually helps people discharge excess aggression that they normally wouldn’t be able to purge. Inevitably, they cite studies supporting the view that violent programs are helpful. However, the overwhelming majority of research shows that actual crime levels rise when media violence is watched. Brad J. Bushman, author of “The effects of violent video games. Do they affect our behavior?”, summarizes the literature:

Some people claim that violent video games are good for you. Some players believe that violent video games are cathartic (i.e., they allow players to release pent up anger into harmless channels). The scientific evidence directly contradicts this idea. Over 130 studies have been conducted on over 130,000 participants around the world (Anderson et al., 2010). These studies show that violent video games increase aggressive thoughts, angry feelings, physiological arousal (e.g., heart rate, blood pressure), and aggressive behavior. Violent games also decrease helping behavior and feelings of empathy for others.⁴³⁴

Bushman writes that while TV might or might not increase violent tendencies, video games definitely do, because television watching is passive and video games require active participation. He cites a 2007 study.

Players of violent video games are more likely to identify with a violent character. If the game is a first person shooter, players have the same visual perspective as the killer. If the game is third person, the player controls the actions of the violent character from a more distant visual perspective. In a violent TV program, viewers might or might not identify with a violent character. People are more likely to behave aggressively themselves when they identify with a violent character.⁴³⁵

Also reinforcing violent behavior are rules that are standard for all violent video games: they directly reward violent behavior by granting points or by allowing players to advance to the next game level. “In some games,” writes Bushman, “players are rewarded through verbal praise, such as hearing the words ‘Nice shot!’ after killing an enemy. It is well known that rewarding behavior increases its frequency.”⁴³⁶ (This appears to be different for some war veterans suffering from post-traumatic stress disorder. A number of studies have shown that killing virtual enemies in violent video games may help traumatized ex-soldiers develop feelings of having control over negative or frightening events.)

“Hi-tech maps of the mind,” writes one reporter, “show that computer games are damaging brain development and could lead to children being unable to control violent behaviour.” This is not only due to the violence inherent in such games, but, as brain scans have shown, the only portions of the brain stimulated by computer games are those “associated with vision and movement. . . . *The students who played computer games were halting the process of brain development*”—specifically, the frontal lobe of the cerebral cortex, which governs thinking, speaking, decision making, and impulse control—and thus was “affecting their ability to control potentially anti-social elements of their behaviour.” [emphasis added]⁴³⁷

In contrast, arithmetic pursuits

stimulated brain activity in both the left and right hemispheres of the frontal lobe—the area of the brain most associated with learning, memory and emotion. . . . Whenever you use self-control to refrain from lashing out or doing something you should not, the frontal lobe is hard at work. Children often do things they shouldn’t because their frontal lobes are underdeveloped. The more work done to thicken the fibres connecting the neurons in this part of the brain, the better the child’s ability will be to control their behaviour. The more this area is stimulated, the more these fibres will thicken.⁴³⁸

Not surprisingly, the entertainment industry has refuted any data showing the relationship of media to real-life violence. “Most Americans,” Bushman reports, “aren’t even aware that the U.S. Surgeon General issued a warning about TV violence. Perhaps this is because most Americans get their information from the mass media. The entertainment industry is probably reluctant to admit that they are marketing a harmful product, much like the tobacco industry was reluctant to admit that they were marketing a harmful product.”⁴³⁹

Digital Media Impedes Relating

Are young people losing the ability to read emotions in our digital world? Scientists report that sixth-graders who went five days without even glancing at a smartphone, television or other screen did substantially better at reading emotions than sixth-graders from the same school who, as usual, spent hours each day looking at their smartphones and other screens. . . .

"Many people are looking at the benefits of digital media in education, and not many are looking at the costs," said Patricia Greenfield, a distinguished professor of psychology in the UCLA College and senior author of the study [published in the October 2014 edition of *Computers in Human Behavior*]. "Decreased sensitivity to emotional cues—losing the ability to understand the emotions of other people—is one of the costs." . . . The psychologists studied [fifty-one participants who lived for five days at a nature and science camp and fifty-four remained at home] . . . The camp doesn't allow students to use electronic devices . . . children who had been at the camp improved significantly over the five days in their ability to read facial emotions and other nonverbal cues to emotion, compared with the students who continued to use their media devices. . . . The findings applied equally to both boys and girls. . . .

"Social interaction is needed to develop skills in understanding the emotions of other people" [Greenfield said]. . . . [Another researcher, Yalda] Uhls said that emoticons are a poor substitute for face-to-face communication: "We are social creatures. We need device-free time."

—"In our digital world,
are young people losing the ability to read emotions?"
Science Daily, August 22, 2014
sciencedaily.com/releases/2014/08/140822094240.htm

Media violence, even when packaged as entertainment, behaves like sophisticated advertisements with profound social and interpersonal implications. Depending on the movie, TV program or video game, children who regularly view violence are taught that it's a normal and necessary—and therefore, correct—part of life. They model their behavior after their violent heroes, not seeing anything amiss. However, this 2017 research study is just the beginning of more scientific proofs that some people already know intuitively. "Cool, callous and in control: superior inhibitory control in frequent players of video games with violent content," describes "robust associations among violent media exposure, increased aggressive behavior, and decreased empathy. Preliminary research indicates that frequent players of violent video games may have differences in emotional and cognitive processes compared to infrequent or nonplayers."⁴⁴⁰

Collateral Damage

Like so many people, I have been profoundly influenced by electronics. Computers are essential for my livelihood. The Internet helps me with research. If I get lost while traveling, I can use the cyber maps on my cell phone. I enjoy streaming my favorite programs online without commercials. And iPads® and smart phones can be fun. A gem-bursting game helps me relax; the instant victory of a winning game feels like an antidote to my long-term writing projects that don't provide instant gratification. However, I limit my time with games, because after a point I get headaches and my eyes hurt. A review of the data, plus my gut instinct, tell me that the price we pay for relying so much on electronic media is much too high.

One obvious disadvantage of electronic media is that people are sitting immobile for huge periods instead of being physically active. More than one-third of the world's population is overweight or obese. Another drawback is the harmful electromagnetic radiation emitted by these devices (see the beginning of this chapter). Also, the strain from an unnatural neck position (such as when texting or using a smart phone for games) is causing serious injuries.

Perhaps the most serious, far-reaching effect of this media is that people aren't learning how to authentically connect with themselves or each other (see Sidebar, "Digital Media Impedes Relating"). Parents give their toddlers smart phones or iPads® to quiet them when they're having temper tantrums. Even babies are playing with this technology. During social events, teenagers and even adults text and take photos instead of talking to the live person in front of them. Why play with or relate to others—which requires effort and emotional risks—when it's easier to receive instant gratification, without emotional entanglement, from a screen? If dependent, neurologically immature children and teens have easy access to screen technology, what are they being taught? The earlier children are hooked, the harder it is to remove the electronics later. There's a good reason why Steve Jobs, founder of the Apple electronic media empire, didn't give his own children iPads®. Likewise, Microsoft founder Bill Gates didn't give his children smart phones until they were in high school. What does that tell you?

Our brains, and especially the brains of children who haven't known anything else, are becoming permanently rewired. What will be the repercussions, on a global scale, if neurological pathways and neurotransmitter levels are so radically altered? It's easier to control people whose creative thinking and behavior are impaired.

Electronic media has exceeded its potential as a useful tool. Instead, it has become just one more legal, addictive drug. People have become insular, gaming and texting themselves into oblivion. Surely there are better options.

BIG PHARMA'S CAMPAIGN AGAINST NUTRITIONAL SUPPLEMENTS

Bullying Tactics to Restrict Natural Remedies

It's no exaggeration to state that the FDA is outright hostile to natural methods that interfere with profits from Big Pharma. Considering that the FDA—a federal agency that's supposed to be objective—receives money from pharmaceutical companies, and is staffed by former drug company representatives, this hostility is no surprise.

As we have seen, dangerous drugs are rarely removed from the market. But government regulations are quite different for natural substances such as herbs. Despite the fact that most herbs are much safer than patented pharmaceuticals, botanicals as well as vitamin and mineral supplements are subject to substantially more scrutiny and restrictions. Also, data supporting the safety and effectiveness of nutrients is usually from sources independent of the supplement manufacturer—as opposed to the drug company-sponsored studies upon which the FDA relies to guarantee drug safety.

In the mainstream media, damning articles on holistic modalities are much more common than damning reports on allopathic treatments. Consider the following excerpt from “How to Recognize a Quack,” which appeared in *The New York Times* in 1988. Even then, the author Jane Brody—who regularly wrote for that newspaper's science section—was writing articles clearly intended to discredit natural therapies. From our perspective today, the article might be considered humorous if it wasn't in a position to do so much damage. This was thirty years ago, before holistic therapies were routinely incorporated into the health regimens of the public majority. Brody began by advising readers to beware of “fraudulent” practitioners.

The practitioner insists that most doctors, the Food and Drug Administration and professional organizations such as the American Medical Association don't know what they're talking about with regard to your health. He may even claim to be persecuted by the medical establishment.

The practitioner has no training in nutrition or food science but may display a string of spurious credentials. . . . Dr. Stephen Barrett, a leader in exposing health frauds and editor of the newsletter Nutrition Forum . . . recommends avoiding nutrition advisers who belong to . . . organizations that do not require their members to have degrees from accredited institutions.

His nutrition education is not based on scientifically established facts. He may have

a degree such as Doctor of Naturopathy (ND), Certified Herbologist (CH), Doctor of Chiropractic (DC), Registered Healthologist (RH) or Certified Acupuncturist (CA).

The counselor claims that modern methods of processing, storing and shipping foods strip them of key nutrients and that people can't possibly get a balanced diet without vitamin and mineral supplements.

He uses unproved diagnostic methods and treatments, such as hair analysis. He espouses “superfoods” and “supernutrients” and may even sell the remedies he prescribes.⁴⁴¹

Stephen Barrett, on whose data Brody relied to write her article, was (and still is) a delicensed doctor. Relatively unknown then, Barrett was later famous as the founder of Quackwatch (renamed Casewatch), an organization that specializes in slandering everything and everyone holistic. Under the organization's auspices, Barrett sued over forty holistic practitioners, claiming that the natural remedies they used were ineffective or harmful. He never won a lawsuit, but he did receive plenty of negative publicity for his habit of filing baseless, defamatory lawsuits. On more than one occasion, the presiding judge harshly reprimanded him for attempting to stifle free speech and freedom of health care choice. Coverage of one trial by a Canadian health organization provides more detail.

At trial, under a heated cross-examination . . . Barrett conceded that he was not a Medical Board Certified psychiatrist because he had failed the certification exam. This was a major revelation since Barrett had provided supposed expert testimony as a psychiatrist and had testified in numerous court cases.

Barrett also had said that he was a legal expert even though he had no formal legal training. During the course of his examination, Barrett also had to concede his ties to the AMA, Federal Trade Commission (FTC) and Food & Drug Administration (FDA).⁴⁴²

Today, studies favorably evaluating the effectiveness of acupuncture and herbs are published in serious medical journals. Over fifty percent of the public employs one or more holistic modality (including chiropractic), but this doesn't stop mainstream media from maligning natural therapies. In a much more recent article by Brody—“Americans Gamble On Herbs As Medicine”—note the emotionally charged word “gamble,” as if it were a self-evident, universal truth that drugs are so much more

DRUG INTERACTIONS WITH HERBS AND NUTRITIONAL SUPPLEMENTS

Periodically, the media warns about unwanted interactions between drugs and nutritional supplements, or drugs and herbs. The problem of unwanted interactions is quite real, because a supplement or herb may cause the body to respond in ways that contradicts or counteracts the (desired) effects of a drug. Conversely, a supplement might augment a drug's effect, thus making the drug's effects even stronger. Most of the time, neither doctors nor those under their care are versed in these interactions. The possibility of unwanted effects is further compounded because many people don't tell their doctor that they are taking herbs and/or supplements (or even other pharmaceuticals) along with the prescribed drug.

The ways in which interaction reports are written often demonize the nutrients and herbs without giving a more complete, functional description of what is really occurring. The information below offers the facts from two different viewpoints. The allopathic angle, summarized from several sources (while remaining faithful to their tone), warns about herbs and other nutritional supplements as though they are interferences. The holistic viewpoint, which is mine, explains the *meaning* of these interactions, thus giving the reader the option to make an informed choice.

Herb/Nutrient	Allopathic Angle	Holistic Perspective
Bromelain	Can increase effects of blood-thinning drugs and tetracycline antibiotics.	Blood-thinning drugs and tetracycline antibiotics may become more potent when the subject consumes bromelain, a naturally-occurring enzyme that catalyzes other chemical reactions. Bromelain also has natural anti-inflammatory effects.
Echinacea	Might counteract immunosuppressant drugs such as glucocorticoids taken for lupus and rheumatoid arthritis. Might increase side effects of methotrexate.	Immunosuppressant drugs taken for lupus and rheumatoid arthritis are less effective if the subject takes echinacea because echinacea increases the production, motility and effectiveness of white blood cells. Rather than trying to eliminate symptoms by suppressing an overactive immune response, why not deal with the root cause. The noxious effects of methotrexate—called “side” effects to prevent us from seeing that all its effects are “primary”—are noticed more by the person who takes echinacea because echinacea stimulates the body's defense cells to do their job. One such task is to remove all poisons from the system.
Evening Primrose Oil	Can counteract the effects of anti-convulsant drugs.	Anti-convulsant drugs do not work as well when the subject consumes evening primrose oil, which contains naturally-occurring fatty acids that feed the brain and nervous system. We might want to look at the relationship of diet and toxins to convulsions.
Vitamin E	Can increase effects of blood-thinning drugs, aspirin, and some herbs.	Blood-thinning drugs and herbs work even better when Vitamin E is consumed. Vitamin E intake should be reduced to no more than 200 IU per day at least two weeks prior to any surgery; anything above that increases the risk of bleeding.
Fish Oil	Can increase effects of blood-thinning drugs, aspirin, and some herbs.	Blood-thinning drugs and herbs work even better when fish oils are consumed. Consider not taking the drug or herb and eat fish oil, a food, instead. (Molecularly distilled fish oil supplements are free of mercury and other dangerous heavy metals.) Decrease fish oil intake at least two weeks prior to surgery to discourage possibility of excess bleeding.
Gamma Linolenic Acid (GLA)	Can increase effects of blood-thinning drugs, aspirin, and some herbs.	See “Vitamin E” and “Fish Oil.” The same logic applies to GLA.

Herb/Nutrient	Allopathic Angle	Holistic Perspective
Garlic	Can increase effects of blood-thinning drugs and herbs.	See "Vitamin E" and "Fish Oil." The same logic applies to garlic.
Ginger	Can increase NSAID side effects and effects of blood-thinning drugs and herbs.	See "Vitamin E" and "Fish Oil." The same logic applies to ginger.
Ginkgo biloba	Can increase effects of blood-thinning drugs and herbs.	See "Vitamin E" and "Fish Oil." The same logic applies to ginkgo.
Folic Acid (synthetic); Methylfolate (bio-available)	Interferes with methotrexate; ask your doctor how to take it.	The intended effects of methotrexate are lessened or altered if the subject consumes folate (folic acid), although the warnings don't indicate if it's at the same time or a different time in the same day. Be aware that folate is an essential nutrient. As most people are deficient in folate, ask for what purposes methotrexate is being taken, and see if there are safer alternatives to the drug.
Ginseng	Can increase effects of blood-thinning drugs, glucocorticoids and estrogens; shouldn't be used by those with diabetes.	See "Vitamin E" and "Fish Oil"; the same logic applies to ginseng. There are many causes of high blood sugar. Therefore, the different physiological and biological causes of diabetes should be investigated before one blanket statement can be made about the effects of an herb, which may or may not address the root causes.
Kava Kava	Can increase effects of alcohol, sedatives and tranquilizers.	Effects of alcohol, sedatives and tranquilizers may be increased by Kava Kava. This suggests that safe, less potent substitutes for sedatives and tranquilizers could be used, whose effects might be augmented by controlled amounts of Kava Kava.
Magnesium	May interact with blood pressure medications.	Blood pressure medications may interact with magnesium. Magnesium deficiency has been proven to be a factor in so many cases of heart attacks and circulatory disorders, that most hospitals immediately put people with heart attacks on intravenous magnesium as soon as they visit the emergency room. If you have a heart problem, check for magnesium deficiency before resorting to taking drugs with unwanted "side" effects.
St. John's Wort	May enhance effects of narcotics, alcohol, and antidepressants; increase risk of sunburn; interfere with iron absorption.	Narcotics, alcohol, and antidepressants are dangerous drugs that substitute for the body's natural functions and may interfere with the pharmacological action of St. John's Wort. European studies show St. John's Wort to be safe and effective in alleviating depression. Note, however, that this herb may negatively interact with the amino acid supplement 5-Hydroxytryptophan (5-HTP), and cause heart palpitations.
Valerian	Can increase the effects of sedatives and tranquilizers.	Sedatives and tranquilizers can increase the effects of valerian root, a safe natural herb that has been used for centuries.
Zinc	Can counteract effects of immunosuppressant drugs.	Zinc is essential for immune cell function. The idea is to deprive immune cells of this vital nutrient in order to disable them. But rather than deprive the body of an essential mineral in an attempt to eliminate symptoms, we should deal with the root cause of the problem.

effective and safe than herbs. Brody's claim that "scores of products [exact number unspecified] sold in the United States are listed by European and American authorities as ineffective, unsafe or both," is simply not supported by reputable research. The "serious side effects" that she says are linked to herbal remedies—"high blood pressure, life-threatening allergic reactions, heart rhythm abnormalities, mania, kidney failure and liver damage"⁴⁴³—are less severe, proportionately fewer in number, and statistically less significant than the effects of allopathic drugs. Of course, any substance powerful enough to change the biochemical terrain of the body must be studied, treated respectfully, and correctly used. *Organically grown or wild-gathered herbs, when properly used, are generally not toxic.*

To Brody's charge that sassafras and comfrey "contain known carcinogens,"⁴⁴⁴ we must ask, "What are those carcinogens exactly, and what data supports this claim?" It's often more useful, to know what information has been omitted rather than what has been included. When a so-called "active ingredient" is removed from its herbal matrix, it causes reactions that wouldn't occur had the whole plant (or more parts of the plant) been consumed. Drug-oriented researchers isolate from an herb what they perceive as the "active" ingredient. They feed it in ridiculously high amounts (which even a human wouldn't consume) to laboratory animals. Then they denounce the herb as invalid because the animals sicken or die.

Faulty tests are common. Earlier I discussed the inaccurate results obtained when drugs meant to be administered orally are injected for tests. For nutrients and herbs, lab animals are often injected, even though humans would normally take the substance orally. Vitamins tested for tolerance levels are injected. But

except for intramuscular Vitamin B12 and intravenous Vitamin C (which must be administered by a licensed medical professional), nutritional supplements are rarely taken via injection. Nevertheless, if adverse reactions are reported when substances meant to be consumed are injected instead, this can be used by researchers to "prove" that the substance is harmful.

When doing tests, it's important to know how the substance is supposed to be used. Many foods and ordinarily benign materials can be harmful if consumed in unusual ways or in abnormally concentrated amounts. We would have to continually ingest excessively high doses of some herbs, over a long period of time, to be harmed. On the other hand, some parts of a plant can be poisonous while other parts are beneficial. One good example is rhubarb. Due to the high oxalic acid content, its leaves are poisonous and when ingested in large enough amounts, can cause cramping, nausea and even death. Cooks discard the leaves, but cook the stalks and make them into pies.

Brody did raise some valid points in that 1988 article. She discussed potentially huge markups in price, dishonest manufacturers whose products don't contain what the label claims, and an herb's lack of effectiveness due to inferior plants, or the ways in which the herbs are processed. However, she failed to question why so many people continued to buy herbal remedies if they don't work. Apparently she believed more in the authority of doctors who don't use the herbs, than in the empirical experience of those who do. Admitting her preference for those who choose "established medical remedies" (allopathic) over those who "choose self-medication with plant extracts"⁴⁴⁵ (holistic), she never questioned who has "established" these allopathic "medical remedies" as the one true path.

Snake Oil Vindicated

Snake oil originally came from China, where it was used to alleviate inflammation and pain in rheumatoid arthritis, bursitis, and similar conditions. Chinese laborers, on section gangs doing the grunt work involved in building the railroad tracks to link North America coast to coast, gave it to Europeans with joint pain (bursitis, arthritis). When rubbed on the skin above the pain, snake oil brought relief, the story goes. Patent medicine men ridiculed the claim. [That is why today, people use the term "snake oil" for a remedy that doesn't work.]

In 1989, a nutrition-oriented medical doctor from California decided to find out what snake oil contains. He obtained a sample of the oil from San Francisco's Chinatown, had it analyzed, and found that [out of the one-quarter that is not carrier oil] . . . 25% of the product is oil from Chinese water snakes, which contains 20% of the important Omega 3 derivative eicosapentaenoic acid (EPA) as well as 48% myristic acid, 10% stearic acid (18:0), 14% oleic acid, and 7% linoleic plus arachidonic acids. At 20% EPA, Chinese water snake is the richest known natural source of the parent of [a compound known as] series 3 prostaglandins, which inhibit the production of pro-inflammatory series 2 prostaglandins. Like essential fatty acids and their other derivatives, EPA can be absorbed through our skin. Salmon oil, the next-best source of EPA, contains a maximum of only 18% EPA. Other fish oils contain less.

The bottom line is that traditional snake oil is natural and therapeutic. The snake oil salesman is vindicated.

—Udo Erasmus

Fats that Heal, Fats that Kill, 1993

If there wasn't such a growing interest in (or validity to) natural therapies, establishment medicine and its agents wouldn't be trying so hard to bias people against them. Brody still writes for *The New York Times*. Although her bias against natural healing has softened somewhat, she is still an agent for allopathic medicine. Here is a good example of a journalist whose writing is not independent, but conforms to the political, editorial, and advertising agenda of the publication that pays her salary. Few mainstream reporters truly investigate. They don't review a wide enough range of scientific literature, they aren't receptive to credible representatives in the natural health field, and they rarely display common sense or critical thinking. Instead, they allow their biases to dictate what they write. Those who do ask important questions are fired, or harassed until they quit their jobs.

Despite the continual onslaught of mainstream propaganda, many people seem eager to try holistic protocols. It would be refreshing indeed to see the following, from Mike Adams, in *The New York Times*:

The US Food and Drug Administration, the agency that claims to be responsible for protecting consumers from dangerous food and drug products, has just surrendered its primary responsibility. Recently, an FDA advisory panel voted to recommend that a dangerous prescription drug, Tysabri®, which was withdrawn from the market a year ago due to its promoting of a deadly brain disease, should now be put back on the market. . . .

The justification . . . to reinstate a drug with known deadly side effects is based on the idea that patients should now weigh the risks of dangerous drugs and decide for themselves whether the risks outweigh the benefits, if any. . . .

There are enormous problems with this new stance by the FDA. The first is that patients do not have the medical knowledge to understand and interpret the significance of these side effects that will no doubt only be mentioned in small print . . . [and] that most patients will probably ignore. . . . The second problem . . . is that it exposes a wicked double standard: With prescription drugs, patients should be able to weight benefits vs. risks, even for drugs that may kill you. But with herbs and nutritional supplements, no such decision is extended to patients. The FDA merely bans whatever natural substances it wishes, usually based on reports of very small numbers of people being harmed by extremely rare overdoses. . . . The FDA now sees its job as protecting the public

[Conventional, allopathic] medicine in our country has been on a crusade over the last 100 years to wipe out every other form of medicine. One of the things they did that was unique was they lobbied to make words legal only for them to use. Today in the US, only a medical doctor can diagnose a disease, prescribe something, and cure you. Nobody else can say "diagnose," "prescribe" and "cure." That means that nobody can cure you but a medical doctor. . . .

I can't say, "Chaparral is the cure for a tumour." . . . Pharmaceutical drugs are killing hundreds of thousands of people every year . . . In spite of that, they claim that two people were hurt with chaparral, so they have taken it off the market. And these claims aren't even substantiated. . . .

I can't say garlic is the cure for cholesterol or high blood pressure [even though] garlic has been shown to help our white blood cells not only defend us against cancer, but also to increase our ability to destroy tumors . . . Garlic has been found to stimulate inteferon production, enhance natural killer cells, stop tumor growth, and even reduce the associated pain of cancer. Most of the research has been done on cancers of the digestive tract. . . .

They have made the laws. So that makes me look stupid [and] impotent, and it makes the herbs look weak and wimpy. . . . I can't as a herbalist, say that an herb will cure, even though a lot of prescription drugs are made from herbs. This was a tactic by organised medicine to wipe out the opposition, by making them look silly and impotent . . .

They have the words . . . they control the high ground. They can walk out and say, "Yes, if you take this drug, you will cure yourself." But they hired lawyers and got the government behind them. If I say that, I go to jail. It isn't because the herbs don't work and the drugs are better, it's just because they have more money, they lobbied more and got the law passed in their favour. That is why people get this idea that herbs don't cure you.

—Richard Schulze, ND, MH

School of Natural Healing, Santa Monica, California
excerpted from whale.to/a/herbal_q.html

from "dangerous" herbs while shirking safety responsibilities on truly dangerous prescription drugs. . . .

The FDA's position now comes down to simply this: Everyone needs to be protected from herbs and nutritional supplements, but no one needs to be protected from prescription drugs. . . . If the agency is now merely going to pass through drug safety decisions to doctors and patients, then why do we need the FDA at all? ⁴⁴⁶

Suppressed Natural Cures

There have been so many attempts by the FDA to restrict natural remedies (if not ban them altogether), that it would take an entire book to document them all. This bullying has occurred with vitamins, minerals, amino acids, herbs, and more. Below are just three examples that show the many ways in which this control has been executed.

Ephedra

The stimulant herb *Ephedra sinica* (also called *ma huang*) has been used by the Chinese for over five thousand years. Its relative, *Ephedra viridis*, grows in the American Southwest and has been used for centuries by the Native Americans. The Mormons, who aren't allowed to have coffee, drink ephedra (nicknamed "Mormon tea"). Ephedra opens the air passages. It's helpful for asthma, allergies, colds, fever, headache, and gastrointestinal and urinary tract conditions. Despite its benefits, the FDA has tried to restrict its availability.

FDA intervention began in 2004 when an herbal weight loss supplement began causing considerable "side" (toxic) effects due to its ephedrine content. The problem was, the FDA failed to distinguish between ephedra and ephedrine. Ephedra is the whole herb. Ephedrine is one synthesized chemical of many compounds present in the whole herb.

We were using niacin [Vitamin B3] and niacinamide before the new psychiatric drugs entered the North American market. Our results were better and safer but we had no one to support us. While drug results were more often more dramatic, they were also much more dangerous. Eventually, it turned out that drugs, while helping in the short run and used in small doses, in the long run stopped the process of recovery long before the patients became well, and froze them into a chronic semi-invalid state from which they can not recover as long as they remain on the medication.

Today, 47 years later, orthomolecular vitamin treatment is still relatively unknown. The use of drugs is world wide and sanctioned by powerful drug interests, the professional associations and governments. It seems not to matter that huge numbers of patients are being denied their chance for full recovery. . . . Niacin has . . . been trampled on for the past 40 years by the galloping hordes of professional establishments, the American Psychiatric Association, governments, the FDA, the National Institutes of Mental Health, and by nearly every health-professional organization. It is a wonder that there are any orthomolecular doctors at all.

—Abram Hoffer, MD, PhD
whale.to/a/saul18.html

Another problem that the FDA failed to address was the amount. A 50-mg serving of whole ephedra herb contains only about half a milligram of ephedrine, compared to a comparable dose of synthesized formula, which contains 20 mg of ephedrine. Incredibly, the FDA scientists missed (more likely ignored) this significant difference. They heavily regulated the natural herb, but not the synthetic ephedra alkaloids, which drug companies had been producing for years. Mary Marino writes:

Almost every cold, cough, or allergy product on the market made by the drug companies such as Sudafed®, Actifed®, Advil® cold and cough formula and others contain synthetically produced versions of the ephedra alkaloid pseudoephedrine. These products are readily found on the shelves of almost every grocery store, drug store, convenience store and pharmacy outlet in the country. . . . To say that natural ephedra kills and a synthetic version of one of its alkaloids found in drugs doesn't, is pure hypocrisy.

How can [the FDA] honestly justify banning ephedra which they claim is killing people yet leave all of the pharmaceutical products on the market containing the same alkaloid that occurs naturally in ephedra? . . . If ephedra is as dangerous as the FDA says, why not ban every product in this country that has any trace of ephedra alkaloids in them instead of taking cheap shots at the supplement industry while protecting the pharmaceutical industry? The fact is, natural ephedra products were taking business away from the pharmaceutical industry.⁴⁴⁷

Not surprisingly, the FDA ignored an existing law that was already regulating sales of natural ephedra. This law was so strict *prior* to the newer ban, reports Marino, that all labels bore strict warnings "listing a number of possible contraindications, including warnings that persons under the age of 18 couldn't buy ephedra and shouldn't take ephedra. Some stores even went as far as locking up their ephedra products in special cases behind the counter."⁴⁴⁸ The newer (stricter) ruling was eventually overturned. Also not surprisingly, in some parts of the US and online, high doses of the synthetic analog are still being sold.

The sleight-of-hand that occurred with ephedra is typical. A synthetic version or extract of an herb causes damage; the FDA bans or restricts the original plant; and the synthesized pharmaceutical is still allowed to be sold. This confusion is unnecessary, and the FDA's deception does not appear to be an accident. Unfortunately, an aware consumer must be vigilant at all times. Assume the worst about regulations, stay informed, and ask questions.

Aloe Vera

There are over three hundred species of aloe vera, a succulent (water-storing) plant that grows abundantly in warm climates. Six thousand years ago, Egyptians called it “plant of immortality,” and some Native American tribes have referred to it as “wand of the heaven.”⁴⁴⁹ Aloe is easy to cultivate and grow. Most of the plants, which have a similar chemical profile, contain six natural antiseptic compounds (including hydrogen peroxide), which kill bacteria, fungi and molds, and viruses. Their other compounds include twelve vitamins (including B12), twenty minerals, eighteen amino acids, enzymes, lignins, anthraquinones, saponins, fatty acids, salicylic acid, and sugars. These sugars are also known as *polymannans*. Different polymannans have different molecular sizes; and it’s the size of the molecules that determines their healing applications.

The soothing gel from the aloe leaf is used in herbal remedies, skin gels, toothpastes, drinks, and even cosmetics. The gel, stripped straight from the fresh leaf, or the juice extracted from the leaf, can be rubbed on the skin for insect bites, rashes and burns; poured into open wounds; swallowed to lower blood sugar levels and to eliminate hemorrhoids, stomach ulcers, urinary tract infections and prostate problems; and massaged into the gums for mouth infections.

The species of aloe pertinent to our discussion is *Aloe barbadensis* Miller because of its effect on the body’s immune cells. Of over two hundred scientific papers on aloe’s benefits, some show that the plant calms a hyperactive response or boosts a lethargic response, depending on what’s needed: “In vivo evidence of the immunomodulatory activity of orally administered Aloe vera gel”⁴⁵⁰ and “Studies on Immunomodulatory Activity of Aloe vera.”⁴⁵¹ “Immunomodulatory effects of Aloe vera and its fractions on response of macrophages against *Candida albicans*” states, “Aloe vera has been shown to modulate the immune response.”⁴⁵² Given aloe’s powerful effect on the immune cells, it’s natural that someone would think of using it to cure cancer, and it’s here that our story of FDA suppression begins. This is a typical illustration of how the FDA tries to eliminate any natural remedy that’s inexpensive, safe and effective, and which thus competes with a pharmaceutical poison.

Aloe as a healing agent for cancer was first brought into the spotlight by Dr. Ivan E. Danhof. His credentials are impressive. Holding both MD and PhD degrees (his specialty was in gastroenterology), he published more than eighty research papers, was a Fulbright scholar, worked as

a consultant to several pharmaceutical research institutes, and served on FDA review panels (dealing mainly with gastrointestinal drugs). With an extensive background in nutrition, microbiology, chemistry and herbology, Danhof is considered the world’s leading expert on aloe vera. His nickname is “Father of Aloe.”

It was in the late 1990s that Danhof developed a novel and effective treatment for cancer using aloe. Then called “Albarin,” it’s now referred to as *polymannose extract*, or simply *PME*. PME is a long-chain sugar that naturally exists in many carbohydrates, including aloe. Dr. Danhof removed some undesirable (naturally occurring) toxic compounds from the aloe, and then began clinical trials.

He utilized only the large-molecule PMEs. “The very large molecules,” Danhof explained, “are immune modulating, which have a powerful healing effect on AIDS, cancer and many different immune system disorders. It is also this large molecule that causes the body to produce a natural chemical, tumor necrosis factors, which functions to shut off the blood supply to tumors.”⁴⁵³

**Patients who get well
when they are not
supposed to are not having
spontaneous remissions.
They’re experiencing
self-induced healing.**

—Bernie Seigel, MD
“Mind Over Cancer,” 1988

It was a brilliant strategy to extract and use the desirable PME molecules. The PME “tells” the immune cells exactly what they should be targeting, and how. Thus, the immune cells can efficiently perform the correct jobs instead of arbitrarily attacking normal body tissue and causing an autoimmune response. Danhof, along with a few other astute researchers, understood that the ability of the mannose molecules to induce molecular signalling was even more important than any of their other (albeit excellent) properties. *Molecular signaling* is the ability of a molecule in a substance to affect the behavior of other cells it contacts. The signaling molecule conveys instructions without being consumed itself in a chemical transformation, just as a computer program on a CD or flash drive runs when it’s placed in a computer, but is not destroyed. Aloe carries clear and correct messages, and the implications of this are profound, even beyond a cure for cancer.

For Danhof’s clinical trials, he enlisted the close assistance of medical doctor Daniel Mayer and nutritionist Joseph Di Stefano, who ran two clinics in Florida, US. The PMEs were always injected because the digestive tract has a hard time absorbing them. Cost of the therapy was \$1200 (less than the price of one chemo session), for as many injections as needed, until the person went into remission. This typically occurred between twenty-five and forty injections. No promises of a cure were made. If someone couldn’t afford treatment, therapy was provided at no cost.

The cancer trials were not advertised. People heard about them through friends, relatives, and acquaintances. The clinic treated over one hundred people labeled “terminal,” whom doctors had sent home to die. Ninety-four people survived, with no undesirable effects from the injections: a success rate of about 80%.

Then the problems began—caused not by those who came for treatment, but by establishment doctors. Local oncologists, who were losing business, complained to the FDA. This occurred around the time that the researchers were starting to file paperwork with the FDA to receive approval of Albarin as an IND (investigational new drug) for cancer treatment.

The first raid occurred in early October 2001. John C. Hammell, head of the International Advocates for Health Freedom, reports.

Joe Di Stefano exited his medical clinic at midnight after a long day's work, and was startled to hear strange noises coming from the dumpster in the back.

Trash was strewn all over the ground. He peered over the top of the dumpster and caught two strangers red handed, with rubber gloves on, probing through his dumpster, trespassing on his property without a search warrant. Then he noticed their unmarked car nearby. Obviously they just assumed no one was there late at night.

When Joe demanded to know who they were, and what they thought they were doing in his garbage, they would not identify themselves and had the nerve to say, “We’re looking for boxes.”

“Sure you are,” said Joe, “everyone looks for boxes at midnight in a dumpster with rubber gloves on.” . . . It turned out that these “dumpster divers” were *FDA agents* seeking evidence to obtain a search warrant against Joe Di Stefano’s clinic.

A week later on October 11, 2001, 120 agents from the FDA, DEA, Customs, U.S. Marshall’s Service, Florida Department of Law Enforcement and the Hillsborough County Sheriff’s Office raided Joe Di Stefano and Dr. Mayer’s clinics in Tampa and St. Petersburg, Florida. The home of Joe Di Stefano was also raided. Joe’s personal property, including his children’s computers that they needed to do their schoolwork, was seized as the agents made disparaging and insulting comments to Di Stefano and his wife, Georgeann.

When the FDA agents attacked the clinics, patients were being administered various therapies by IV injection. The law enforcement officials asked the patients if they wanted to be unhooked from their IVs, but not a single one said yes.

Paul Schebell, with stage 4 liver cancer who’d seen marked improvement during three months of treatment, said directly to the FDA raid leader, “We’re all adults here making free will choices. Why don’t you get out of here and leave us alone?”. . . A simultaneous raid occurred against Ivan Danhoff . . . The compounding pharmacist who prepared the aloe extract (Jerry W. Jackson of Allied Pharmacy Services, Arlington, Texas) was also raided.

Seized in the raids were the aloe extract (Albarin), all patients’ charts, along with all computers and other business records. The purpose of the October 11, 2001 FDA raid was to stop cancer patients from being able to use this intravenous form of aloe vera . . . ⁴⁵⁴

In those early clinical trials, Albarin caused tumors to shrink, significantly relieved pain, increased energy levels, and caused remissions in people who had advanced stages of cancer. Interestingly, Dr. Danhof pointed out that Albarin “had a history of being used successfully since 1996 in humans in over 600 patients in the USA, Canada, Mexico, Holland, Belgium, Germany and China.” Danhof emphasized, Hammell reports, “that he goes to great lengths in his lab using spectral chromatography and other analytic methods to produce a safe, pure substance, and that he has tested every batch on himself or his colleague first before giving it to any patients. All aloe utilized was certified organic. . . . it took him over 20 years to perfect the process of producing Albarin, which is extracted through a freeze-drying process.” ⁴⁵⁵

For years, favorable articles on using aloe for cancer (including leukemia) have appeared in medical journals. Some of them are, in order of publication (from 1976): “Tumor inhibitors. 114. Aloe emodin: antileukemic principle isolated from *Rhamnus frangula* L.” [not a typo], ⁴⁵⁶ “Activation of a mouse macrophage cell line by acemannan: the major carbohydrate fraction from *Aloe vera* gel,” ⁴⁵⁷ “The therapeutic potential of *Aloe Vera* in tumor-bearing rats,” ⁴⁵⁸ and “Aloe-emodin is a new type of anticancer agent with selective activity against neuroectodermal tumors.” ⁴⁵⁹

Despite the great promise of using polymannose extract (Albarin) for cancer, the US government ended the treatments. This shouldn’t surprise anyone, considering that the FDA works for Big Pharma and not consumers (see Sidebar, “Who Benefits From FDA ‘Protection?’”). Suppression of natural remedies happens a lot. Unfortunately, most people never hear about it because mainstream media rarely reports the truth. And if there is any truth to some reporting, it’s often distorted.

Pine Oil (Turpentine, Naturally Derived)

Turpentine isn't a drug or supplement, but an example of a natural remedy whose origins and uses have been hidden.

Turpentine—commonly known as the manufactured “rectified paint grade” chemical, which artists use to clean their brushes—wasn't always made from petroleum. In the Middle Ages in Europe, *terebint* referred to a species of tree that was used to produce turpentine. In fact, the tree was nicknamed the “turpentine tree.” Today, *terebinth* is the name for a small Mediterranean tree in the cashew family (*Pistacia terebinthus*), which is also used to produce turpentine. In the United States, turpentine as a healing agent is steam-distilled *without solvents or other additives* from the resins and volatile oils of live coniferous (cone-bearing) trees, especially pine. Like many aromatic plants from which essential oils are obtained—clove, oregano, eucalyptus, sandalwood, cinnamon, peppermint and cedar, to give just a few examples—turpentine contains a broad class of natural chemical compounds called *terpenes*. They are sometimes called *terebenes*, states one dictionary, from “tereb(inth)+ene,” and are used “medicinally.”⁴⁶⁰

Terpene-rich turpentine has been used medicinally for centuries. Dabbed on cotton wool and placed on a wound, it prevented infections. Cotton wool saturated in turpentine was placed on the chest for respiratory infections. The vapors, when inhaled in small amounts, cleared the lungs. For sprains, arthritis and gout, people massaged a mix of turpentine, cooking oil and perhaps camphor—not the poisonous, synthetic, petroleum-based stuff used today in moth balls, but natural camphor oil, made by distilling the bark and wood of the camphor tree. One of turpentine's most popular uses was for parasite elimination. Typically administered on sugar and taken internally, only a teaspoon or less was needed. Turpentine was also used to eliminate fungal infections, taken internally or used externally on toenails and fungus-ridden skin. It has also been used to eliminate head lice.

With even a brief review of history, chemistry, and the origins of words, we can see that the natural plant-based turpentine is very different from its modern namesake. Natural turpentine does have properties that allow it to function as a solvent. However, as with many essential oils, its safety depends on its concentration, how much is used, how it's applied, who is using it, and even how it's stored. Turpentine's fate is similar to that of other “folk” remedies (including camphor). Something is manufactured from synthetic materials, given the same name as the original, and then everything with that name is labeled “not for internal use.” And, as with any potentially caustic compound, turpentine must be treated with care. But suppressing its history and restricting its label doesn't give us the chance to use it wisely—if at all.

Who Benefits From FDA “Protection”?

Most people don't realize how politically influenced the FDA is. Several former FDA officials who now work as consultants for private industry explained this to me. The FDA receives a lot of “complaints” about various products it regulates. When I was first told this, I said, “Do you mean a lot of consumers complain to the FDA?” The answer is no. The FDA defines “complaints” as when a commercial company contacts the FDA and asks them to investigate the activities of a competitor. The purpose of these complaints is to cause problems for the competitor so that the “complaining” company can gain a tactical advantage in the marketplace. The FDA is happy to serve various pharmaceutical interests in this role due to the revolving door between the Agency and certain companies whose interests they protect.

The FDA claims to be a consumer protection agency. The truth is that industry uses the FDA to attack competitors. So when the FDA pretends to have the interests of consumers at heart, always look to who benefits from the FDA's actions. In most cases, it's giant drug companies, the blood banking industry, large food processors, etc. There is relatively little “consumer protection” provided to the American public by the FDA. The FDA aggressively protects the profit margins of industry (especially big drug companies), at the expense of the individual consumer.

Who do you think “complained” to the FDA about Joe Di Stefano and Dr. Mayer's intravenous aloe therapy? It turns out that no cancer patient or their families ever complained. . . . It turns out that more and more cancer patients were choosing this nontoxic alternative therapy instead of chemotherapy. So the oncologists in the area got together to “complain” to the FDA about Joe Di Stefano and Dr. Mayer selling an unapproved cancer drug (aloe extract).

Realizing that these conventional oncologists are part of the monolithic “cancer industry,” the FDA acted with lightning speed to shut down this competitive threat. After all, if the effects of this aloe extract became widely known, it could inhibit sales of highly profitable chemotherapy drugs.

The FDA has historically functioned to protect the profits of the politically well connected. Small companies who discover novel approaches to treat disease seldom survive the FDA's delays in approving paperwork or Gestapo-like raids as were instigated against Joe Di Stefano, et al.

—John C. Hammell

“FDA Attacks Alternative Clinics,

Cancer Patients' Lives Threatened,” April 2002

lifeextension.com/magazine/2002/4/report_clinic/page-02

A Few Common Medications Taken by People Over Age 65 and Safe, Effective, Natural Substitutes

*Benefits of these natural substitutes are summarized only briefly.
Do more research, and consult a qualified holistic practitioner.*

Did you know. . .

Among people age 65 or older, 90% take at least one drug per week, more than 40% take more than five different drugs per week, and at least 12% take more than ten different drugs per week.

[data summarized from J. Mark Ruscin and Sunny A. Linnebur, "Introduction to Drug Therapy in the Elderly," Merck Manual website, 2015]

People age 65–79 receive more than 27 prescriptions for new drugs per year.

[from www.forbes.com/sites/matthewherper/2014/12/10/many-senior-citizens-take-too-many-medicines-here-are-three-fixes/#334e70d53910]

Type of Drug, Intended to Treat	Is Drug Effective	Some Toxic ("Side") Effects of Drugs	Natural, Non-Drug Replacements	Properties of Natural Replacements
Antidepressant, Anti-Anxiety	To a very limited extent.	Grogginess, confusion, dizziness (leading to falls), constipation, dry mouth, difficulty urinating.	Magnesium arginate (mineral), Vitamin B1. Kava kava (herb). GABA, acronym for gamma-aminobutyric acid (amino acid). L-Phenylalanine (amino acid). L-Tyrosine (amino acid). Tryptophan (amino acid). Cannabis (from legal hemp). <i>Note the high correlation between depression and subclinical hypothyroidism (the condition of having an underactive thyroid gland).</i>	Help anxiety, nervousness. Calms nervous system, helps with sleep without disturbing REM cycle. Helps with focus, stress tolerance, relaxation, optimism and calmness. Helps with addiction control and pain relief. Helps energy, focus and optimism. Helps self-esteem, calmness, optimism, addiction control. Helps with all of the above. <i>Amino acids help the body create neurotransmitters; consult holistic practitioner on their use. See discussion on mind-altering drugs, pages 52–74.</i>
Blood Sugar Regulation (to lower, for diabetes)	To a very limited extent. It's unreliable, because it can cause blood sugar to fall too abruptly and too much.	Kidney failure, diarrhea or constipation, weight gain, dizziness, nausea, stomach cramps, shivering and sweating, skin rash or itch, greater risk of heart attack.	Chromium and Vanadium (minerals), also Vitamin B1 or Thiamine. Carnosine (amino acid). Cloves, black walnut, wormwood (herbs). Shardunika (<i>Gymnema sylvestre</i>), cedar berries, neem, cinnamon, stevia, and perhaps licorice (herbs). A diet low in sugars/carbs, and high in leafy greens.	Help the body metabolize sugars and normalize blood sugar levels. Lowers blood glucose by enhancing insulin sensitivity. If pancreas isn't working properly due to parasites, these anti-parasite herbs help. Help balance blood sugar levels. These replace bread, cake, candy, and other sweets that cause insulin resistance.

Type of Drug, Intended to Treat	Is Drug Effective	Some Toxic ("Side") Effects of Drugs	Natural, Non-Drug Replacements	Properties of Natural Replacements
Blood Thinner (anticoagulant)	Works too well.	Copious bleeding, nosebleeds, nausea, stomach and abdominal pain, bruising, swelling, fatigue, severe headache, dizziness and fainting, weakness, chest pain, shortness of breath, difficulty swallowing.	Vitamin E. Natural molecule is <i>d-alpha</i> -tocopherol; synthetic is <i>d-l-alpha</i> . Mixed (many types of) tocopherols offer more benefits. Vitamin C. Bioflavonoids (Vitamin P). Fish oil. Proteolytic (protein-digesting) enzymes.	Thins blood when taken in amounts of more than 200 IU per day. Also helps repair capillaries. Thins blood, protects cells. Repair capillaries. Thins blood; helps repair brain and nerve tissue. Decrease stickiness of blood.
Cholesterol-Lowering (statin drug)	Works too well.	Headache, muscle ache and inflammation, fatigue, drowsiness, nausea and vomiting, abdominal pain, diarrhea or constipation, skin rash, insomnia, memory loss, confusion, diabetes.	Natural Vitamin E (as above). Alpha lipoic acid (antioxidant naturally made by the body and often needed in larger quantities). Vitamin C. Bioflavonoids (also known as Vitamin P).	All these nutrients fight free radicals. Free radicals cause the unhealthy oxidation of cholesterol (which then becomes dangerous, and provides a rationale for "lowering" it). <i>Cholesterol is made in the body and is needed for proper function of brain, nerves, kidneys, heart and other systems. Often the problem is due to triglyceride, not cholesterol levels. If the liver—which, when malfunctioning, can't regulate cholesterol levels—is clogged, consult a holistic health professional.</i> <i>Eat healthy fats, found in grass fed meats, clean fish, raw butter, and olive, flax, and coconut oils. Also exercise, appropriate to your age and health level.</i>
Diuretic (to eliminate excess water)	Yes. They work so well that they flush out many vitamins and minerals from the body. Thus, these nutrients must be replenished.	Fever, frequent urination, fatigue, abnormal heart rhythm, weakness, skin rash, muscle cramps, dizziness, blurred vision, confusion, sore throat, headache, dehydration, constipation, cough, ringing in ears, vomiting.	Dandelion root, burdock, horsetail (herbs). Fresh parsley (herb and food).	All these herbs exert <i>gentle</i> diuretic action. Together, they strengthen kidneys and liver, and purify blood. Natural diuretic. (Also helps dissolve kidney stones.) <i>Consult an herbalist for full instructions on how to take these herbs. Avoid horsetail if kidney stones are present.</i>

Type of Drug, Intended to Treat	Is Drug Effective	Some Toxic ("Side") Effects of Drugs	Natural, Non-Drug Replacements	Properties of Natural Replacements
Heartburn, Gastritis, Acid Reflux, GERD (gastroesophageal reflux disease)	To a very limited extent.	Headache, abdominal pain, nausea, diarrhea, sore throat, runny nose, dizziness.	Slippery elm bark (herb), L-glutamine (amino acid). Also clay (see Chapter 3). Hydrochloric acid and digestive enzymes (includes protease, lipase, amylase). Mastic gum (resin from the trunk of an evergreen shrub).	Repair the mucous membranes that line the gastrointestinal tract. Hydrochloric acid and these enzymes digest food. Antioxidant, antibacterial and anti-inflammatory, very healing for digestive tract. <i>GERD is usually due to a lack of sufficient hydrochloric acid (made in the stomach to digest food). Too much or too little hydrochloric acid produce similar symptoms. After age 40, our bodies don't produce enough.</i>
Heart Stabilizing (for arrhythmia)	To a very limited extent.	Chest pain, fainting, abnormally fast or slow heartbeat, dizziness, blurred vision, diarrhea or constipation, swollen legs, increased sensitivity to light.	Hawthorne berry (herb). One of the best ways to administer it is in its high-vital-force Gemmotherapy tincture form, the buds and first shoots of the plant. Magnesium (mineral) comes in many forms. For heart muscle, magnesium orotate, magnesium aspartate, or magnesium taurate are optimal, although all forms of magnesium can help. Carnosine (amino acid).	Strengthens heart muscle, repairs blood vessels, and normalizes blood pressure. Food for the heart. (Note: After suffering heart attacks, people are usually put on intravenous magnesium drips in the hospital.) Helps protect muscles, including the heart.
Muscle Relaxant Also see "Sedative."	No.	Grogginess, confusion, dizziness (leading to falls), constipation, dry mouth, difficulty urinating, abnormal heart rhythm, fast or irregular breathing, facial swelling, shortness of breath, skin hives or itching, nausea, blurred vision, muscle weakness, headache, seizures, hallucinations.	Magnesium arginate. Magnesium chloride form, applied topically as "magnesium oil," works very well and allows more of the mineral to be absorbed. Soaking in magnesium sulfate (Epsom salts) is also beneficial, though not as long lasting. Enzymes—especially protease, but also bromelain. Rescue Cream® or T-Relief™ (homeopathic creams).	Tense and painful muscles are often caused or exacerbated by a magnesium deficiency. Enzymes scavenge debris that lodge in muscles and joints, causing pain. Applied topically to sore areas, they relieve pain and help restore tissue function.

Type of Drug, Intended to Treat	Is Drug Effective	Some Toxic ("Side") Effects of Drugs	Natural, Non-Drug Replacements	Properties of Natural Replacements
Non-Steroidal Anti-Inflammatory Drug, or NSAID (typically for arthritis)	Yes, by inhibiting enzymes involved in substances that can cause pain. However, these same enzymes are also needed for other vital functions.	Indigestion, bleeding ulcers, bleeding colon, high blood pressure, and heart failure.	Turmeric root powder (which contains compound called curcumin). Adding black pepper, coconut oil or other fat, and heating the mixture, may aid absorption. Enzymes. Magnesium (mineral). Malic acid (naturally occurring compound present in many foods).	Lessens or eliminates inflammation, protects brain and nerve tissue. See "Muscle Relaxant." See "Muscle Relaxant." Reduces muscle fatigue while increasing strength.
Opioid Pain Reliever (narcotic)	Usually.	Dizziness (leading to falls), hallucinations, confusion, seizures, drowsiness, constipation, nausea, vomiting, muscle pain, anxiety, irritability, and addiction to the drug.	Protease enzymes. Pancreatic enzymes. Other enzymes, including bromelain, papain, serrapeptase, nattokinase, and lumbrokinase. <i>Take enzymes on an empty stomach so they scavenge debris in bloodstream instead of being used for digestion.</i> Vitamin C (high amounts). Cannabis (from legal hemp).	All these enzymes, taken on an empty stomach, reduce or eliminate pain and inflammation by scavenging ("eating") foreign proteins in the body that cause the pain and inflammation. Chemical exposure and diet should be addressed to eliminate the origin of toxic debris. Cleans opioid receptor sites on cells so there's less pain. Attaches to body's receptor sites and eliminates pain.
Osteoporosis	Hardly at all.	Abnormal heart rhythm, throat and chest pain, difficulty swallowing, heartburn, bone loss in the jaw, increased risk of bone fractures. Also incapacitating bone, joint and muscle pain.	Magnesium. (Also see under "Muscle Relaxant.") Boron (mineral). Iodine and Selenium (minerals). Vitamin D3. Phosphorus (mineral). Calcium (mineral), if necessary.	Escorts calcium into the bone. Most people believe they need calcium but usually they're deficient in magnesium. Needed for building bone; helps conserve and utilize calcium and other minerals. Help promote proper bone metabolism. Regulates the uptake of phosphorus and calcium. Helps remodel bones and prevent fractures. The second most abundant mineral in the body, 85% of phosphorus is in the bones and teeth. The most abundant mineral in the body, calcium builds bones, but only if the proper ratios of the other nutrients are also present.

Type of Drug, Intended to Treat	Is Drug Effective	Some Toxic ("Side") Effects of Drugs	Natural, Non-Drug Replacements	Properties of Natural Replacements
Sedative could overlap with Sleeping Pills	To a very limited extent.	Cognitive impairment, anxiety, delirium, hallucinations, aggression, restlessness, depression, suicidal tendencies, dizziness (leading to falls), reduced heart rate, abnormally slowed breathing, and addiction to the drug.	Amino acids, especially Tryptophan which helps with sleep. For details, see "Antidepressant, Anti-Anxiety" on the first page of this chart. Valerian root ¹ , hops ² , kava kava ³ , passion flower ⁴ (herbs). Chamomile tea (herb). Lime tree (Gemmotherapy tincture). Melatonin (hormone).	Supplementing with amino acids (the building blocks of protein) can help the body produce the necessary neurotransmitters, and thus balance the brain and its physical and mental functions, including moods. Often in sleep formulas: relaxes central nervous system and smooth muscles ¹ ; induces sleep by relaxing nerves ² , relaxes muscles and induces sleep ³ , calms nerves, relaxes muscles and alleviates pain. ⁴ Soothing flowers can be drunk as a tea anytime for calmness and relaxation. Calms nervous system. Produced by the pineal gland and sold as a supplement, melatonin helps with immunity as well as sleep and well-being.
Steroid (to help build lean muscle mass in the elderly)	Hardly at all.	Weakened bone, ligaments and tendons, agitation and anxiety, blurred vision, dizziness, abnormal heartbeat, headache, depression and nervousness, shortness of breath, swelling in the limbs, slowed thinking, problems walking or speaking, abdominal and stomach pain, nausea and vomiting.	L-glutamine (amino acid), can be ingested in powder form. Leucine, isoleucine, and valine (amino acids). Carnosine (amino acid). Whey from goats or grass fed cows. Supplement of all amino acids, non-dairy formula.	Builds muscle mass and strength, repairs gut, feeds the brain, improves immune function. Stimulate protein synthesis and regulate protein metabolism. Protects muscles, including heart. Helps body utilize proteins. May help prevent Alzheimer's and Parkinson's. Contains every amino acid, and is easily absorbed and bio-available. Sometimes, dairy intolerant people do well with whey protein <i>isolate</i> , which has the lactose (milk sugars) removed. Make sure whey is from grass fed cows, and that it's cold-processed (with little or no heat, so the valuable nutrients aren't destroyed). Instead of whey, and instead of individual amino acids.

A HOLISTIC, FUNCTIONAL APPROACH TO HEALTH

Substitution and Masking vs. Support

Most allopathic medications either inhibit, or eventually prevent altogether, the body's ability to function on its own. As mentioned earlier, a drug is taken to suppress symptoms, as a substitute for a bodily function, or as a substitute for a bodily substance.

As an example of suppressed symptoms, let's look at a migraine. A drug numbs the nerves, thus preventing messages calling out "Pain!" from reaching the brain. As an example of a bodily function, let's look at constipation. An allopathic doctor may prescribe a muscle relaxant but a holistic naturopath always seeks the cause of the constipation first. The cause may be impacted waste in the colon due to improper diet, parasites or *Candida* that clog the colon, or even inadequate amounts of water, which make the stool hard. With all of these causes, sending the muscles the pharmaceutical message "Relax!" won't address the problem, and in fact may make the constipation worse. Finally, as an example of a bodily product, let's look at thyroxine, a thyroid hormone. If the gland is underactive, thyroxine is prescribed to replace what the gland does not appear to be secreting. But this may cause the thyroid to become more lethargic. Biochemically, the receptor sites for thyroid hormone are sated. They don't "know" or "care" that the hormone they're receiving is from a source outside rather than inside the body. The body's internal sensors know only that there is enough thyroxine circulating in the bloodstream for the moment. So, via a series of biochemical messengers, the thyroid is told to stop producing thyroxine. In turn, this creates the need for a larger drug dose. As the subject becomes even more dependent on externally-provided thyroxine, in time the thyroid gland completely loses its capacity to manufacture hormone and literally atrophies from lack of use. As a result, the subject is forced to take the substitute drug forever. Thus another vicious cycle is created.

In all of the situations I have just described, when a drug is taken over a long enough period of time to mask symptoms, replace a bodily function or replace a bodily substance, the person can become permanently dependent on pharmaceuticals. The liberal use of such drugs is what separates holistic/functional medicine from allopathic medicine.

Allopathic medicine can be welcome and extremely helpful for people in crisis, such as those who require intervention in the form of emergency drugs or immediate surgery. However, allopathic medicine doesn't know what to do for chronic illness (or claims not to know how to

prevent it). The holistic model tries to stimulate repair of the body, but establishment medicine is not interested in the *causes* of degenerative conditions—nor is it interested in helping people recover by giving them what they truly need. In fact, in April 2018, analysts working for Goldman Sachs, one of the largest investment banks in the world, delivered a report to a biotech company in answer to the question, "Is curing patients a sustainable business model?" The title is incredibly revealing. So was the report, which addressed the decrease of "the available pool of treatable patients" in the event that people were actually cured.⁴⁶¹ A person's health and quality of life didn't matter, but the company's bottom line—money—did.

Our goal is to support the body before it reaches the point where radical intervention is necessary, or is the only option. To achieve this goal, we need a holistic approach.

All Parts Are Connected

Western medicine's demand for double-blind studies—based on the premise that this is the only valid way to determine whether a drug, herb or vitamin is effective—is disempowering, and ultimately unscientific. Proponents of this method claim that scientists can determine precisely what the agent of healing does or doesn't do only if the subject is passive. However, the question, "What results are generated by the subject and what results are generated by the drug?" is not the right one to ask. The principle of "active/passive" is based on a dichotomy of "either/or" that doesn't exist in real life. Quantum physicists remind us that one cannot observe something without changing what is being observed. This principle pertains as much to the macrocosmic world as it does to the microcosmic universe. It's *never* the case that people are completely passive agents in their own healing. Simply making a decision to get well—or to participate in a double-blind study, for that matter—can reflect the person's desire to grow or change. When someone takes charge of their own healing, beneficial biochemical and physiological changes occur. Even conventional medicine acknowledges that people who feel in control over their lives produce hormones that help them heal, whereas those who do not feel in control produce noxious biological chemicals that make them feel even sicker.

Neuroscientist Candace Pert illustrates the importance of taking charge of one's own life in her fascinating book, *Molecules of Emotion*.

[My colleagues and I discovered that] The immune system was potentially capable of both sending information to the brain via immunopeptides and of receiving information from the brain via

neuropeptides (which hooked up with receptors on the immune cell surfaces). Our work . . . [pointed] irrefutably to the existence of a chemical mechanism through which the immune system could communicate not only with the endocrine system but with the nervous system and brain, as well. Previous work my colleagues and I had done demonstrated quite convincingly that the brain communicated with many other bodily systems. But the immune system had always been considered separate from the other systems. Now we had definite proof that this was not the case.⁴⁶²

The same theme of biological interconnectedness, expressed from a structural viewpoint, is discussed in *Energy Medicine: The Scientific Basis* by James Oschman.

“A few decades ago,” Oschman writes, “the living cell was visualized as a membrane-bound bag containing a solution of molecules”—which left the interior of the cell to be considered basically “empty.” However, contrary to what many of us learned in high school, a cell in the body “is *not* a bag of solution,” nor a circular outline surrounding empty space.

The more closely biologists and microscopists looked at cells, the more structures they found. With better preparation techniques, electron microscopists began to see within cells the material that the biochemists had been discarding. . . .

We now know that the cell is so filled with filaments and tubes and fibers and trabeculae—collectively called the cytoplasmic matrix or

	Holistic Medicine	Conventional Medicine
Philosophy	Based on the integration of allopathic (MD), osteopathic (DO), naturopathic (ND), energy, and ethno-medicine.	Based on allopathic medicine.
Primary Objective of Care	To promote optimal health and as a byproduct, to prevent and treat disease.	To cure or mitigate disease.
Primary Method of Care	Empower patients to heal themselves by addressing the causes of their disease and facilitating lifestyle changes through health promotion.	Focus on the elimination of physical symptoms.
Diagnosis	Evaluate the whole person through holistic medical history, holistic health score sheet, physical exam, lab data.	Evaluate the body with history, physical exam, lab data.
Primary Care Treatment Options	Love applied to body, mind, and spirit with diet, exercise, environmental measures, attitudinal and behavioral modifications, relationship and spiritual counseling, bioenergy enhancement.	Drugs and surgery.
Secondary Care Treatment Options	Botanical (herbal) medicine, homeopathy, acupuncture, manual medicine, biomolecular therapies, physical therapy, drugs, and surgery.	Diet, exercise, physical therapy, and stress management.
Weaknesses	Shortage of holistic physicians and training programs; time-intensive, requiring a commitment to a healing process, not a quick fix.	Ineffective in preventing and curing chronic disease; expensive.
Strengths	Empowers patients to take responsibility for their own health, and in so doing is cost-effective in treating both acute and chronic illness; therapeutic in preventing and treating chronic disease; and essential in creating optimal health.	Highly therapeutic in treating both acute and life-threatening illness and injuries.

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Also atahha.org/articles.asp?id=38

cytoskeleton—that there is little space left for a solution of randomly diffusing . . . molecules. *Virtually all the cell water is bound in particular ways to the cellular framework.* [emphasis added]⁴⁶³

In other words, scientists discovered that the cellular matrix (within the cell) and extracellular matrix (outside the cell) are both comprised of a certain type of delicate connective tissue that links the inside of each cell to the inside of every other cell *throughout the entire body*. (This discovery was unknown for a long time because the very process of preparing cells for viewing under a microscope, and the ways in which enzymes were extracted for examination, destroyed the living matrixes that are a vital part of the cellular structures. Chapter 2 discusses in depth what is possible to miss under a microscope.)

The discovery of this interconnected matrix has enormous ramifications. *It is our connective matrix that allows information to travel instantaneously in the body*—whether that information takes the form of hormones, electromagnetic radiation, or another type of energy. “The boundaries between the cell environment, the cell interior, and the genetic material are not as sharp or as impermeable as we once thought,” Oschman reports. He describes how appreciating this biology can help us understand various healing modalities.

As a hands-on [massage, “Touch For Health,” energy work, or related therapist], what you touch is not merely the skin [which also contains this matrix of tissue]—you contact a . . . living matrix [that] is a continuous and dynamic “supramolecular” webwork, extending into every nook and cranny of the body. . . . In essence, when you touch a human body, you are touching a continuously interconnected system, composed of virtually all of the molecules in the body linked together in an intricate webwork. *The living matrix has no fundamental unit or central aspect, no part that is primary or most basic. The properties of the whole net depend upon the integrated activities of all of the components. Effects on one part of the system can, and do, spread to others.* [emphasis added]⁴⁶⁴

Recognizing the body as a single, unified organism makes it much easier to comprehend why the *intentions* on the part of the healer or health care provider are so important. Intentions, Oschman explains, “give rise to specific patterns of electrical and magnetic activity in the nervous system of the therapist that can spread through their body and into the body of a patient.”⁴⁶⁵

Help the Body Fight Cancer On Its Own? What a Novel Idea!

The Food and Drug Administration on Thursday approved the first of an eagerly awaited new class of cancer drugs that unleashes the body’s immune system to fight tumors.

The drug, which Merck will sell under the name Keytruda, was approved for patients with advanced melanoma who have exhausted other therapies.

Cancer researchers have been almost giddy in the last couple of years about the potential of drugs like Keytruda, which seem to solve a century-old mystery of how cancerous cells manage to evade the body’s immune system.

The answer is that tumors activate brakes on the immune system, preventing it from attacking them. Keytruda is the first drug approved that inhibits the action of one of those brakes, a protein known as PD-1, or programmed death receptor 1. . . .

Keytruda was given accelerated approval by the F.D.A., allowing it to reach the market without the three typical phases of clinical trials needed to show [that] a drug can prolong lives. . . .

But the treatments will not be inexpensive. Merck said Thursday that the drug, known generically as pembrolizumab, would cost about \$12,500 a month, or about \$150,000 a year. . . .

Keytruda’s label warns that it can cause immune system reactions that can damage the lungs, liver, kidney and other organs. However, that warning is not inside a black box, the strongest level of caution.

—Andrew Pollack
The New York Times

“F.D.A. Allows First Use Of a Novel Cancer Drug”
September 5, 2014

This phenomenon on the biological level is mirrored in quantum physics. Subatomic particles in their own separate research laboratories have been shown to *communicate*—even across the Atlantic Ocean. In the ether, just like inside and outside biological cells, there exists a matrix consisting of particles that oscillate in response to each other. I discuss this in more detail in Chapter 6.

As it turns out, the oscillations of cells, along with their receptivity to electromagnetic fields, explain how Rife Therapy can restore normal cells as well as kill harmful microorganisms (see Chapters 2 and 4, and Appendix C). Oschman’s book is an excellent resource. He documents the different types of energy (frequencies) on the electromagnetic spectrum, what devices were used to register the various frequencies in the body, and how they can be applied to various methods of healing.

A HOLISTIC APPROACH: THE BASICS

Holistic health cannot be separated from holistic living. In natural medicine, one chooses an orientation and a direction as much as a particular treatment. When you sincerely adopt a holistic framework, your entire approach to life cannot help but shift.

Learning basic principles about the structure, function, and biochemistry of the body is empowering. Although we might (rightly) seek guidance and information from those more knowledgeable, ultimately we all (re)turn to ourselves to discover what is best for us. No one else lives in your body or has your exact experiences, senses, and perceptions.

Mainstream medicine—especially if it's considered the sole healing modality or the only viable one—by definition shackles us to invasive procedures. Equally important, it fortifies the illusion that in order to heal, we must abandon our own abilities and leave our fate in the hands of the so-called experts. Those who relinquish responsibility for their health give up their power, their autonomy, and often their lives.

A 2004 Harris Poll survey showed that a measly “13% of Americans believe that pharmaceutical companies are ‘generally honest and trustworthy,’ putting the industry on a par with tobacco, oil, and managed care companies.”⁴⁶⁶ Twelve years later, a 2016 Gallup poll calculated that the pharmaceutical industry had a “net positive” rating of minus 23, with only the federal government ranking lower.⁴⁶⁷ Nevertheless, people still flock to mainstream doctors and hospitals. Even if a holistic therapy proves effective according to the most stringent requirements, people may still avoid it because they have been trained to denigrate everything that is not considered “standard” treatment. In addition, many people who express interest in holistic modalities may choose allopathic medicine when they become seriously ill—because Western medicine is what they were taught as children. It's familiar, and people tend to be comforted by the familiar during a crisis. Plus, humans tend to adhere to habits. Thus we may choose the path of least resistance, even if we suspect that it may not be beneficial long term.

Sometimes, even those committed to holistic methods find it challenging to continue implementing them if their family and friends think they are being foolish. How many times have you been assaulted with the veiled intimidation tactic, “No one *else* does it that way”?

Unlimited publicity also plays a huge role in keeping some of us attached to Western medicine: there is simply

more public awareness of allopathic modalities than holistic ones. Also, there are many more allopathic doctors than holistic practitioners. All of these factors—combined with the refusal of insurance companies to reimburse for holistic remedies—can discourage all but the most determined souls from pursuing a holistic path.

In the scientific arena, a holistic modality might be evaluated as worthless or harmful not because it's defective, but because the Western standard used to evaluate it is based on limited, linear methods that do not, and cannot, work on living, whole systems. “Simply because a treatment or therapy fails to fit the medical world's concept of accountability,” writes Rife researcher and chiropractor James Bare, “does not mean that it has no merit and should be considered fraudulent. In the final analysis only the results of the treatment [and] the patient's health . . . after treatment are of any importance.”⁴⁶⁸

Dr. Bare points out that despite the enormous amount of wealth it can access, the allopathic medical profession “has not been able to produce satisfactory results. Certainly no practitioner of natural health care would ever make press releases to brag about a 4% to 9% response (responded but still died from the disease) rate from their patients.”⁴⁶⁹

Moreover,

Patients willingly accept the huge physical risks associated with [allopathic] medical care. Yet that same patient and their family has no tolerance for any risk associated with Natural Therapeutics. A 1% or 2% death rate just from the use of anesthesia is completely acceptable, the death of 40,000 people a year from prescribed medications reactions, . . . [the death of] 40,000 people a year from surgery is acceptable, the death of several thousand people a year from improperly administered or incorrect medications is acceptable, the hospitalizing of over 8 million people in 1994 for drug-related mortality and morbidity is tolerated, but not one death or injury from Natural Therapeutics is tolerated.⁴⁷⁰

A Chinese medicine specialist points out the folly of regarding health in such narrow terms as distinct diseases or specific cures, because illness can indicate weakness or imbalance of the entire organism. Once we “seek to overcome those weaknesses,” he writes, we “will very likely end up doing what we would do to be healthy, even if we weren't sick. The motivation here is not to overcome disease, but to help support life.”⁴⁷¹

The most common way
people give up their power
is by thinking they don't
have any.

—Alice Walker
writer and activist
(born 1944)

How many of us live in an environment that fosters self-awareness, encourages the freedom to choose, and supports our uniqueness and creativity? If you have always trusted the government and medical establishment, and believed that they are truly interested in your well-being, some of the material in this chapter may be difficult to process or even feel overwhelming. “Why would people in such positions of power,” you might ask, “want to cause harm to innocent people?”

The answers to this emotionally charged question may not be easy to accept. I do know that part of the answer is about greed and power that allow corporate profits to escalate at the expense of people’s quality of life. But there are deeper psychological and even spiritual issues operating here, too. Some individuals enjoy having complete control over others. It gives them a feeling of power and importance. (This need for power, the desire to coerce and intimidate, indicates an inner emptiness and disconnection from the very source that helps promote good health. I address this in detail in Chapter 6.)

For those desiring a holistic life, what do we do? Is there any hope for increased funding of research for complementary modalities? There is always hope. Hope is a positive emotion that assists in healing. But we need to be realistic too. As long as the money is controlled by the medical-pharmaceutical cartel, funding will be limited for truly innovative natural therapies. The changes requested by attendees in 2004 at a conference, Corporate and Political Influence on Science-based Policymaking—from the disclosure of “financial interests of investigators and funding sources, to a registry of all clinical trials, to comparative rather than placebo controlled trials, to publication of negative data”⁴⁷²—are as pertinent today as they were then. Unfortunately, this indicates how much more needs to be accomplished.

Meanwhile, there’s plenty we can do for ourselves, and that is what this book is about. If you are curious about how holistic protocols can help you, don’t wait until you’re too weak or ill to do your research. Start now!

People who dismiss the corruption in the government and pharmaceutical industry as imaginary, exaggerated, or as the delusions of paranoid souls, are fooling themselves. They may also be leaving themselves vulnerable to a health crisis. After becoming sick, they will find that the medical options available to them do little to prolong their life or augment the quality of their remaining time. However, those who are open to genuine learning, to expanding beyond the conventional status quo mindset, have a much better chance of healing. They are the ones who ask questions, refuse to take “no” for an answer, and get excited about possibilities—including Rife Therapy.

When a “Patient” Becomes a “Client”

The allopathic medical model is intrinsically flawed. Many of the words and phrases used in that system are obviously crafted to obscure. But they’re also meant to enforce an undesirable hierarchy.

The word “patient” enforces this hierarchy in an insidious way. It transforms the client into a weak, obedient and dependent child—with no ability to discriminate and no right to question—while the doctor assumes the role of all-knowing parent or god, whose opinion must be followed even if it’s against the patient’s better judgment or common sense.

Objecting to the “doctor-patient” paradigm is more than linguistic nit-picking. Being a “patient” not only discourages you from helping yourself; it can actively hinder healing. In *Cancer As A Turning Point*, psychologist Lawrence LeShan writes about many cancer “patients” who did exactly what their doctors ordered them to do. Yet despite their eager compliance and strict adherence to protocol, they became weaker and sicker and lost the will to live. By contrast, those who either disobeyed their doctors, or became (from the doctors’ perspective) demanding, irritable and uncooperative, went into remission. Taking responsibility for their own condition, psychologically and emotionally, corresponded to the mobilization of their immune cells which allowed them to heal. The very act of questioning their doctors’ authority meant a positive difference in their attitudes, in their immune response, and how their energy flowed. In short, they took their lives into their own hands.

Understandably, it can be painful to acknowledge the cavalier disregard of human life that pervades industry and some of the highest levels of world governments. But the refusal to be asleep does not mean surrendering to despair. We can use our awareness to circumvent, dislodge, or change the mainstream (dominant) paradigm. There are many ways to participate in the growing global movement for positive transformation. The area of change this book focuses on is health, with an emphasis on holistic modalities and the technology invented by Royal Raymond Rife.

It should be noted that all of Rife’s experiments were conducted within the parameters of allopathic medicine, and that the doctors who supported him were allopathically trained. However, although it can be tempting to use any therapy in a mechanized (allopathic) manner, the chances of healing are infinitely better if you do not. Rife understood the larger, holistic picture—as you will see in Chapter 2.



ENDNOTES

Chapter 1

THE POLITICS OF MEDICINE
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*Its name is Public Opinion. It is held in reverence.
It settles everything. Some think it is the voice of God. Loyalty to
petrified opinion never yet broke a chain or freed a human soul.*

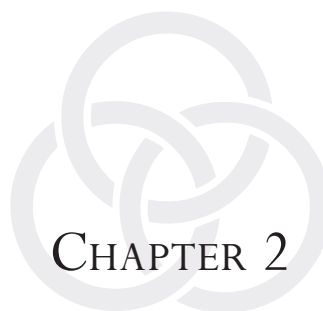
—MARK TWAIN, AMERICAN WRITER, CRITIC AND HUMORIST (1835–1910)



Chapter 2 Outline

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The History of Pleomorphism and the Inventions of Royal Raymond Rife

LIFE CYCLES OF A PATHOGEN: BÉCHAMP VERSUS PASTEUR

Holistic health can sometimes be a “hard sell” in today’s marketplace. As discussed in detail in Chapter 1, the wealthy, corrupt and powerful medical-pharmaceutical industry has launched a sustained campaign to discredit any person, modality, substance and idea that threatens its influence and profits. Drug companies publish biased and fictitious “research” denigrating effective and time-honored remedies. Meanwhile, for their expensive new medicines, they promote fabricated lab tests and clinical trials, making these toxic drugs appear safer and more effective than they actually are.

For almost two centuries, people worldwide have grown up fearing dangerous microorganisms that lurk in our air, water and food, causing infection and plague in hapless victims. This is largely due to a clash between two Frenchmen: chemist Louis Pasteur (who represented Big Pharma) and doctor-pharmacologist Pierre Jacques Antoine Béchamp (who represented holism). While Pasteur’s name is well known today, most people have never even heard of Béchamp. Thus, it’s not difficult to guess who won the war on how we perceive harmful microbes. Once you learn the central issues behind this debate, who won it and why, you will understand why Royal Rife’s technology was so difficult for some people to accept.

Pasteur’s name is recognized by the lay public largely because he championed the widespread process of heating

milk to temperatures high enough to destroy pathogens. In fact, the process is called “pasteurization” in his honor. What most people don’t know is that pasteurization is not as beneficial as we have been led to believe. In fact, the process can cause damage to such an extent that a food is actually dangerous (see Chapter 3, **Food**, for more details on pasteurized and homogenized milk). Few people are aware that of the legitimate ideas and discoveries that Pasteur did present to the world, many were stolen from Béchamp (born 1816), who was far more brilliant than his rival, and who, unlike Pasteur, was a true scientist.

Louis Pasteur, in hypothesizing how people get sick, promoted what became known as the “germ theory” of disease. Briefly, the theory states that bacteria, viruses and fungi are potent and unchanging; they invade the person from an outside source; a particular microbe causes a particular disease; and once we wipe out the germ with medicine, we banish the disease and create health. The problem is, Pasteur’s germ theory was based on research that was not only flawed, but in some cases, outright falsified (just as it is today).

Pasteur and Béchamp were quite different in intellect, training, competence, and temperament. Pasteur, although credentialed in chemistry (and even so, he barely passed his exams), he had no formal schooling in the biological or medical sciences. Béchamp, on the other hand, held many degrees and titles. Among these were Doctor of Medicine, Doctor of Science, Master of Pharmacy, Professor of Medical Chemistry and Pharmacy (at the

Faculty of Medicine, Montpellier University), Professor of Biological Chemistry, Fellow and Professor of Physics and Toxicology, and Dean of the Free Faculty of Medicine (at the University of Lille, France). Among Béchamp's many achievements was the development of an inexpensive way to produce the chemical aniline for France's dye manufacturers. He also saved the silk industry in France from ruin by finding the causes and cures for two diseases that were devastating the silkworm population. Although Pasteur wrote in a correspondence to a colleague, "I have never even touched a silk-worm,"¹ he later claimed credit for having single-handedly rescued the silk industry—a claim so well publicized, that Pasteur was believed due to sheer repetition.

Some of Béchamp's work that Pasteur plagiarized was submitted to the French Academy of Science in Pasteur's name. Science biographer Edith Douglas Hume chronicles in great detail how Pasteur's conclusions sometimes contradicted what his own experiments revealed. She also reports that various chemical procedures suggested by Pasteur to French winemakers and other industry heads were abandoned after they learned that his suggestions would not work.

Despite Béchamp's scientific contributions, his name and achievements have been nearly obliterated from history while the name and achievements of Louis Pasteur are revered. An ironic twist to this tale is that although Pasteur stole scientifically accurate data from Béchamp, it was sometimes so contaminated by Pasteur's own wild speculations that many of Béchamp's improvements and contributions were offset or erased entirely. Perhaps Pasteur's greatest offense was replacing Béchamp's solid evidence about the origin and nature of pathogens with his spurious germ theory. This popular fiction quickly became regarded as irrefutable fact by mainstream scientists and medical doctors. I will discuss the flawed germ theory in a moment—but first, it's worth exploring a bit how this theory became construed as absolute fact.

The answer then (as now) has a lot to do with publicity, politics, and drive. Hume writes of Louis Pasteur that "intense strength of will, acute worldly wisdom and unflagging ambition were the prominent traits of his character."² By contrast,

Antoine Béchamp was utterly indifferent to personal ambition. Never of a pushing temperament, he made no effort to seek out influential acquaintances and advertise his successes to them. Self-oblivious, he was entirely concentrated upon nature and its mysteries, never resting till something of these should be revealed. Self-glorification never occurred to him and while

the doings of Pasteur were being made public property, Béchamp shut in his quiet laboratory, was immersed in discoveries, which were simply published later in scientific records without being heralded by self-advertisement.³

The medical doctor who wrote the forward of Béchamp's own volume, *The Blood and Its Third Anatomical Element*, points out that one of Pasteur's promoters was the Research Advancement Society in England, "an organization which exists for the purpose of popularizing experiments on animals. Pasteur discovered . . . that if one gets into the limelight and . . . [has enough] push [money and political power to] . . . back . . . him, his name can be immortalized."⁴

If Béchamp was such an obviously superior and educated scientist, why were so many ready to believe Pasteur? The answer—which unfortunately is as familiar to us now as it was then—is *image*. Pasteur was a much better public speaker than Béchamp. Pasteur's more imposing and impressive presence is a good illustration of the extent to which social status determines what becomes regarded as "science." Also, powerful economic interests, including the chemical companies, were making money from Pasteur's fables. So they continued to help suppress Béchamp's discoveries and work. By the time of Pasteur's death, the germ theory was firmly entrenched in people's consciousness, propelled by a momentum of its own.

Although Béchamp's discoveries and research seem extraordinary on one level, they were based on common sense because they explained so many apparent anomalies in medicine. In every living entity, the scientist discovered, exists a basic unit smaller than a cell—an autonomous, living, molecular structure he named *microzyma* from the Greek words meaning "small" and "ferment." Rather than being harmful, Béchamp wrote, microzymas "function as anatomical elements in the living and healthy organism; there they are the physiological and chemical agents of the transformations which take place during the process of nutrition."⁵ In other words, microzymas are responsible for building cell tissue. In fact, they provide many useful services *until the terrain of the body changes and the tissues begin to degenerate. At that point, the microzymas change form and function according to their new environment.*

Altered microzymas comprise approximately a dozen different families consisting either of bacteria, viruses, or fungi. However, there is a hierarchy of appearance and structure among these pathogens. A bacterium is considered to be the first pathogenic change in a diseased body, and a fungal form is the last. This order of emergence and hierarchy of sophistication may be one reason that bacterial infections are easier to eliminate than

fungus infections: the body is not as far along in its process of deterioration. (Note that the bacteria referred to here are pathogenic, and not the essential microorganisms such as *Acidophilus* and *Bifidus* that live in the intestinal tract and help us digest our food. However, beneficial intestinal flora thrive and proliferate only under conditions that favor our health. Our own health means their health.)

Pathogenic microzymas further ferment unhealthy tissue, disintegrating it into its more elemental components. Eventually, the microzymas catalyze the total destruction of an organism without being destroyed themselves. When there is no more tissue, they revert back to their harmless state. Béchamp demonstrated this process by conducting an experiment with a dead cat encased in natural limestone, and thus protected from exposure to the air. After several years, the cat was completely decomposed by bacteria, which returned to their microzyma state after they completed their scavenger job. This experiment was repeatable. One author succinctly describes this process:

The bacteria found in man and animals do not cause disease—they have the same function as those found in the soil, or in sewage, or elsewhere in Nature; they are there to rebuild dead or diseased tissues, or rework body wastes and it is well known that they will not or cannot attack healthy tissues [original emphasis].⁶

Body tissues are healthy when they receive the proper nutrients. If there are no assimilable nutrients available for an adequate period of time, cells starve. In this state of starvation, the cells lose their vitality and ability to function and they decompose into diseased tissue, unable to support growth. Once this occurs, the microzymas transmute and immediately perform their cleanup. Simply put, then, the function of pathogenic microbes is to break down bodily tissue that's already diseased.

The scavenger function of bacteria has complex ramifications. If these modified microzymas were only getting rid of debris, we humans could eat whatever we wanted and subject ourselves to all kinds of abuse without worrying about the consequences. We could binge on junk, see the body react by becoming toxified, and then blissfully sit back while the transmuted microzymas cleaned up the mess. The problem is, once the microzymas have transmuted into bacteria, viruses or fungi, *feeding* on unhealthy and fermented body tissue causes them to *excrete* unhealthy (mostly acidic) waste materials. *These pathogenic waste materials—which are poisonous—further contribute to a rising spiral of sickness.* Thus the phrase, “You are what you eat,” acquires new meaning.

HEALING THE TERRAIN

Illness usually arises from many complex factors, not solely from a harmful microbe invading the system. Even if these microbes are directly addressed, the bodily terrain on which they feed must still be corrected. This includes the elimination of waste—particularly important for those who are toxified and ill. However, increased energy is required for waste removal, and a sick person generally doesn't have any energy to spare. Also, these transmuted microzymas are *reproducing* at a brisk rate, usually faster than the immune cells can eliminate them.

Compounding the problem, a very ill person generally harbors fungi and molds. These organisms, which appear at the final stage of a microzyma's transmutation cycle, often cause the most damage. Highly sophisticated in structure and function, they usually exist in an acidic environment. Acids cause more fermentation, which in turn creates even more transmuted microzymas. The microzymas then excrete more acidic wastes, which ferment even more tissue, creating more acidity—and the vicious cycle begins all over again. This contributes to, as well as directly causes, degenerative disease.

People harboring pathogens usually have little or no interest in eating nutrient-rich vegetables or clean animal protein. Instead, they prefer sweets, refined starches and alcohol, all of which further unbalance the terrain. This craving for junk is largely due to the hunger pangs of the sugar-loving pathogens, which need this unbalanced diet to survive. Not surprisingly, the biochemical messages sent by the parasitic microbes—“Feed me junk!”—are often confused with the person's own hunger signals. No wonder people sometimes feel enslaved by their cravings and wonder if it's possible to get well!

The body's terrain so strongly influences susceptibility to illness that some holistic sources claim “the terrain is everything.” However, I don't believe that this is true in *every* case of illness. In less than half a century, genetically engineered and unnaturally mutated pathogens have emerged that are so virulent, they apparently alter the terrain in even healthy individuals. One example is the huge, corkscrew-shaped Lyme spirochete, which can bore into bone and cause intense physical pain and severe disabilities, even blindness. Also, as scientists have discovered, microorganisms produce *biofilm*—a hard, glue-like coating that protects and hides them from the body's immune cells. Healing, therefore, requires many approaches to reestablish the integrity of the terrain.

Now I want to address arguments that appear to refute Béchamp's claim that diseases are caused by unbalanced internal conditions. History proves that a substantial

decrease in hospital fatalities and an improvement in public health took place once physicians began washing their hands before performing surgery and dressing wounds. However, as Walene James explains, “when unclean or putrefying matter—conveyed by hands, dressings, or other means—contacts fresh wounds, it introduces morbid microzymas that alter the normal function of the inherent microzymas of the body.”⁷ This is not a mere repeat of Pasteur’s germ theory. The differences, though subtle, are important. According to Pasteur, all disease originates from outside attackers (germs) that penetrate an otherwise pristine and healthy system, with no internal systemic response other than the mobilization of immune cells to ward off the invaders. However, as Béchamp recognized, the body is never a passive observer of its circumstances: there is always a synergistic relationship between internal and external conditions.

Take the example of decreased illness after doctors began washing their hands in hospitals. When a doctor performs surgery with unwashed bloody hands that have previously touched someone else’s open wound, the new surgery subject becomes sick because *foreign material*, rather than a *pathogenic microbe* per se, has been introduced into the subject’s body. The phrase “foreign material” is key here. Human beings are not constructed to harbor life forms that are alien to their innate processes. James summarizes Béchamp’s findings:

There are functional differences in the microzymas of (1) the same organs and tissues of the same animal at different ages, (2) the blood and tissues of different species, and (3) the blood and tissues of different individuals of the same species. Because microzymas of different species are functionally different, each species has diseases peculiar to it. Certain diseases are not transmissible from one species to another and often not from one individual to another, even of the same species. Microzymas, then, are species and organ specific and even person and age specific.⁸

The specificity of microzymas to a given location explains how the introduction of foreign blood proteins (to use the above example) can make someone sick. “It is not the inoculated organisms which multiply,” Béchamp wrote, “but their presence and the liquid which saturates them *causes a change in the surrounding medium* [the person’s body] *which enables the normal microzymas to evolve in a diseased manner.*” [emphasis added]⁹

Put another way, the introduction of agents foreign to the body upsets the chemical balance of the inner terrain. These foreign agents can be chemical toxins, junk foods, or waste products from abnormal microzymas. Once the

body’s environment becomes unbalanced, the microzymas that regularly inhabit the system change in response to the altered chemistry. The foreign proteins do catalyze the change. However, *the malady itself is caused by the body’s own altered microzymas that have formed in response to the changed environment triggered by these outside agents.* At this point, the pathogenic microbes that are multiplying are not foreign substances, but the body’s own transmuted microzymas which—because they are reproducing and spewing their toxic waste into the system—perpetuate the cycle of ill health as long as the inner terrain is disturbed.

An infection catalyzed by external unsanitary conditions must be dealt with in the same manner as any other imbalance that involves the body’s own transmuted microzymas: detoxification from the poisons, paying attention to proper diet, getting more rest, and so on. We are not dealing with separate diseases here, only different manifestations of unbalanced conditions. Significantly, Béchamp recognized the function of fever as “the effort of the organism to rid itself of the products of an abnormal fermentation and disassimilation, while inducing a return of the diseased microzymas to the [original positive] physiological condition.”¹⁰ Pathogens cannot live beyond certain high temperatures, so the body finds a way to “cook” them by producing a fever.

Béchamp’s colleagues and the general public ridiculed his discoveries. James analyzes the barriers that prevented them from accepting what the scientist had proven in his laboratory. The germ theory, she writes,

fit neatly into the mechanistic theories of the universe that were popular in the nineteenth century. Second, it fit “human nature.” Man, apparently, ever ready to avoid responsibility and place causation outside himself, found an easy scapegoat in the bad little organisms that flew about and attacked him. After all, it wasn’t too long ago that evil spirits had been responsible for man’s ills. Third, it fit “commercial nature.” When we place causation outside ourselves, we create vast armies of attackers and defenders, assailants and protectors. In the case of disease causation, our protectors are such things as vaccines, drugs, X-rays, and the like, and their administrators, medical practitioners. The possibilities for commercial exploitation are endless. Is it any wonder that the “powers that be”—conservative, well-established scientific authorities—were behind Pasteur?¹¹

Mechanistic thinking, the avoiding of personal responsibility, and commercial exploitation are still the dominant paradigm today. It’s entrenched in what we might call “establishment medicine.”

BÉCHAMP'S SCIENTIFIC PROGENY

Had Béchamp been the only physician who observed these basic units of life that transform as the body changes, he might have passed into obscurity. But professionals from many different sectors of the scientific and medical communities subsequently agreed with his findings. What follows is only a small sample.

Rudolf Virchow

By the age of 25, 19th century Prussian Rudolf Virchow had become a doctor. The founder of pathology, he discovered and named many structures and tissues in the human body. Perceiving that the presence of harmful microbes was the effect—rather than the cause—of disease, he used the analogy that mosquitoes gravitate to stagnant water to feed, rather than being the cause of the stagnation itself.

Florence Nightingale

Florence Nightingale was a 19th century British mathematician and nurse who turned the devalued art of nursing into a respected profession and championed public sanitation because she understood that protecting the terrain was the biggest deterrent against pathogens. In 1860 she remarked:

Diseases are not individuals arranged in classes, like cats and dogs, but conditions growing out of one another. . . . I was brought up . . . to believe that smallpox . . . [began as] a first specimen in the world, which went on propagating itself, in a perpetual chain of descent. . . . Since then I have seen . . .

smallpox growing up in first specimens . . . where it could not by any possibility have been “caught.” . . . Wise and humane management of the patient is the best safeguard against infection—the greater part of nursing consists in preserving cleanliness. The specific disease doctrine is the grand refuge of weak, uncultured, unstable minds, such as now rule in the medical profession. *There are no specific diseases; there are specific disease conditions.*¹²

Guenther Enderlein

A little later, in Germany, scientist Guenther Enderlein (1872–1968) wrote about the different phases of the life cycles of microorganisms. He described how what he called *endobionts* climb the evolutionary ladder very quickly from their basic size of 0.01 microns and become larger, assuming more complex forms with the increased ability to perform complicated functions. In *Bakterien Cyclogenie (The Life Cycle of Bacteria)*, Enderlein pointed out that the highly varied forms these endobionts assume is a different phenomenon from the adaptive changes that occur when a bacterium becomes resistant to an antibiotic over several generations. He called pathogens *pleomorphic*, from the Greek meaning “many forms.” Echoing Béchamp, Enderlein emphasized that the numerous developmental stages of a microbe are not freaks of nature, but naturally occurring under certain conditions as part of the microbial life cycle. Pleomorphism, Enderlein wrote in 1950, “is easily affected . . . by increasing the local pH value.”¹³ (See Sidebar, “Antibiotics and Pathogen Behavior.”)

Enderlein had access to better microscopes than did Béchamp. Besides presenting specific data about how

Antibiotics and Pathogen Behavior

Many times after the administration of antibiotics, people either feel a need to take another cycle of the same drug—“because the medicine didn’t kill all the germs”—or they become sick with an apparently unrelated illness, to which they respond by taking a different drug. There are three reasons for the growing immunity of pathogens to antibiotics. One, if enough antibiotics are ingested over a period of time (either directly, or through the consumption of non-organic commercial meat, whose animals are routinely fed antibiotics), the pathogens will mutate into a more resistant form that is not necessarily part of their normal pleomorphic cycle. This scenario is now widely acknowledged as fact by the allopathic community, but they respond by creating even more deadly poisons to kill the strengthened pathogens instead of carefully limiting the use of antibiotics or stopping that use entirely.

Two, even if a pathogen is killed, another pathogen can be released from the first. For instance, viruses can live inside bacteria. So the host may still feel ill, even if the initial infection is eliminated.

The third reason that antibiotics don’t work is not readily understood by allopathic doctors and researchers. Even if a drug succeeds in eliminating a specific microorganism, that microorganism is one, narrow range of pathogen in an entire pleomorphic family. The drug has not eliminated other pleomorphic forms of the same pathogen, either higher up or lower down on the evolutionary chain. Unless the unhealthy terrain of the body is changed, the same symptoms may reappear in the future. Or, other forms in the same microbial family will cause new, different symptoms regarded as an unrelated, apparently different disease.

numerous classes of microorganisms function, he was able to describe their different shapes in some detail. He developed a comprehensive program of biological medications directed at the microbes' progressive life cycles to help the body eliminate the pathogenic forms and rebalance itself. Enderlein understood, however, that as long as the bodily terrain supports pathogens, they'll evolve into more toxic forms. That is why he also emphasized a healthy diet and the elimination of acidic wastes from the person's system as major components of good health.

Bruno Haefeli

Swiss biologist Bruno Haefeli worked with Enderlein. He reported that when acid accumulates in the body's cells due to poor diet and other stress, the cells begin to ferment. This provides a tasty snack for the malevolently transmuted microzymas and a wonderful opportunity for them to further ferment bodily tissue. Haefeli's name for the basic unit of microorganism was *protit*, but the concept was the same. All over the world, scientists were amassing the same data and responding with the same conclusions: Many kinds of generally benign microorganisms evolve into visually and functionally different, more harmful forms if conditions in the body support the change.

Wilhelm Reich

Around the time that Enderlein was working in Germany, and then later in Europe and the United States, his contemporary, natural scientist and psychiatrist Wilhelm Reich, followed a similar course (and geographic itinerary) with his own examination of microorganisms. In the 1930s, through special high-magnification microscopes that used dark field condenser technology and had a viewing capacity of up to 4500 times, Reich was able to examine the life processes of minuscule organisms. After extensive experiments, he discovered living, mutable microscopic entities that he called *bions*. "My observations [of these bions] and the resulting hypotheses," Reich freely acknowledged, "clashed severely with the 'germ theory.'"¹⁴ These bions appeared to be none other than Béchamp's microzymas and Haefeli's protits. Based on the fact that the blood of the cancer subjects he studied produced pathogens much more readily than did the blood of healthy people, Reich concluded that one's tendency to develop cancer was based on the inability of blood and tissue (the terrain) to resist putrefaction.

Significantly, Dr. Reich cautioned his critics against trying to duplicate his experiments without using identical measuring tools—a common mistake made by many scientists who try to replicate the work of other scientists. "*It is not really possible*" he wrote, "*to verify the findings unless the same optics are used* [original emphasis]."¹⁵ This is why Reich described in detail the manufacturers, models, and technology of the microscopes that he used in his lab to examine the living specimens.

Echoing Béchamp and foreshadowing some modern microscopists, Reich believed that what we call the cancer virus is actually a mutation of some of the body's own minute biological structures.

Edward Rosenow

Knowledge of a pathogen's pleomorphic cycle wasn't limited to native Europeans. In the United States, work was being done by Edward C. Rosenow, MD, who published over 450 medical papers and was an associate at the Mayo Clinic for decades. In a 1914 issue of *The Journal of Infectious Diseases*, Rosenow described taking a variety of bacterial strains from different diseased tissues and placing them in separate Petri dishes that all contained the same nutrient base. After a short period of time, when he examined the different dishes, he found no difference between them. All of the harmful microbes had transmuted into the same form! (Rosenow and his colleagues were

The aim of medicine is to prevent disease and prolong life.

The ideal of medicine is to eliminate the need of a physician.

—William James Mayo, MD
American surgeon, who,
with his brother Charles,
ran the Mayo Clinic that had been
founded by their father,
William Worrall Mayo
(1861–1939)

able to see this phenomenon almost 20 years later through Royal Rife's microscope. This will be discussed shortly.) When Rosenow later returned the altered microorganisms to their original diseased tissues, *their offspring assumed the original form and function of the parent microorganisms*. Rosenow's simple experiment has been successfully repeated by other scientists.

Nutritional biochemist A. Van Beveren writes:

Thus there is no "*streptococcus*" for the throat and "*pneumococcus*" for the lungs. They are the very same bacteria feeding on—and being modified by—the substance they are breaking down. This is pleomorphism and, while once ridiculed, [it] is now being reconsidered in light of improved microscopic techniques.¹⁶

In modern Germany, no fewer than eight textbooks on pleomorphism have been published.

ROYAL RAYMOND RIFE

A Renaissance Man

As we explore pleomorphism, a major repeating theme is the quality of the microscopes used by the researchers. Although the microscopes of Béchamp's time limited his ability to see the more intricate details of microzymas, he could certainly identify them by function and location. The scientists who followed him achieved much more comprehensive descriptions due to improved microscope technology. This brings us to Royal Raymond Rife.

A surviving copy of Royal Rife's birth certificate shows that he was born in Nebraska in 1888. However, Rife historian Charlene Boehm points out that this document was a *delayed* birth certificate, recorded in retrospect and based on notarized statements of people whose memories might be faulty. Various records show that the Rife family was actually living in southwest Iowa. Royal was raised by an aunt and uncle, as his mother died shortly after his birth and his father was unable to take care of him. In the early 1900s, Rife moved to San Diego and by 1912 he married a Chinese-American woman named Mamie Ah Quin.

Mamie, the third of twelve children, had been born into a wealthy and prominent family within the San Diego Chinese community. Her father was so well respected, in fact, that he was regarded as the unofficial mayor of Chinatown. Among his many accomplishments, the elder Ah Quin was a labor broker, recruiting newly arrived Chinese immigrants to build the railroad. He also had considerable bilingual talent and extensive legal knowledge, which made him a favorite translator in the courts. Documentation shows that Mamie's father was so eager to assimilate into American culture that he cut off his back braid—an offense punishable by death in China.

More is known about the Ah Quin men than the women. The men in the family were established entrepreneurs. For example, one of Mamie's brothers became part owner of a tourmaline mine that supplied jewels to the Dowager Empress in China. It has been reported that all of the Ah Quin children received musical instruction, so it's logical to assume that Mamie's upbringing focused on breeding, education, and adaptation to a new culture. All this, and her striking physical beauty, evidently attracted Rife to her. It was illegal for Caucasians to marry non-Caucasians at that time, so Rife and Mamie very likely got married across the border in Tijuana, Mexico—a reasonable guess, because when the youngest daughter Mabel married a Caucasian, documents show that she did this in Tijuana in the 1920s.

By 1920, Mamie and Royal had moved onto the estate of Amelia and Appleton Bridges, who hired Rife

as a chauffeur and car mechanic. The Bridges quickly recognized that Rife was not a typical employee. A gifted musician and artist, Rife had already educated himself in the fields of optics, electronics, biology, and chemistry. Additional education (whose documentation has not been substantiated) is believed to have included studies at Johns Hopkins University, training to perform eye surgery, and instruction with optical scientist Hans Luckel, who worked for German-based company Zeiss Optics and was in the New York plant when he presumably taught Rife. Popular literature says that Rife received an honorary Doctor of Parasitology degree from Heidelberg University, but the university has reported being unable to locate such a degree. Even without this honorary degree, though, Rife's intellect and accomplishments are impressive.

Throughout his life, Rife designed and built many medical research instruments. These included different types of spectroscopes (to split light into its constituent wavelengths), micromanipulators (tools that move, cut, or inject specimens under a microscope with great precision), a device to take stop-motion photomicrographs (pictures filmed through microscopes), and other optical tools. With one of his own photomicrograph inventions, he is thought to have made all of the pictures that appeared in the *Atlas of Parasites*, published by the University of Heidelberg in Germany. According to several reports, at some point the governments of the US and several foreign countries awarded Rife over a dozen medals for scientific work involving machine gun synchronization gears, variable pitch propellers, inclinometers (which measure the slope of an object), and high altitude barometric pressure scales.

Royal Rife reportedly had a period with the United States Navy during World War I when he traveled to Europe to examine foreign laboratories for the US government. Among other tributes, he was awarded a Research Fellowship in Bio-Chemistry by the Andean Anthropological Expedition Institute for Scientific Research on August 10, 1940. According to Rife researcher and engineer Dave Felt, Rife was offered an honorary Doctor of Science degree by the University of Southern California in 1936, but he did not accept it.

While still living on the Bridges estate, Rife conducted microscopic examinations on some samples of the metal used for ball bearings in a factory owned by Henry H. Timken, millionaire industrialist and the brother of Amelia Bridges. Rife discovered weaknesses in the grain structure of the metal and saved Timken money. Most of Rife's efforts, though, were devoted to his laboratory, which was located above the garage on the Bridges estate and was financed by Bridges and other wealthy sponsors, including Timken. It was in this lab that Rife created some remarkable optical equipment.

The Universal Microscope

Rife, accustomed to working alone, became a public figure when he began building microscopes that were far superior in resolution and performance to anything thus far available. Although Rife was a contemporary of both Enderlein and Reich, he appeared to be unaware of the microscope technology and research of his European counterparts. We do know, however, that he was so dissatisfied with the quality of microscopes in the US that he vowed to create something better.

The most powerful and celebrated instrument, completed in 1933, was the 200-pound, 5,682-part Universal Microscope. Standing between two and three feet high, it had a magnification power of about 60,000 times, with a resolution of 31,000. Rife's microscope had some unique design features. "The New Microscopes" by Raymond E. Seidel and M. Elizabeth Winter, which described how the Universal Microscope worked, appeared in a 1944 *Journal of the Franklin Institute* and was reprinted in the *Annual Report of the Board of Directors of the Smithsonian Institution* for the period ending June 30, 1944. (Rife later remarked that despite a few errors, the article was basically correct.) Some highly technical details from the article are included to illustrate the level of expertise and legitimacy conferred on Rife by the medical community.

Dr. Royal Raymond Rife of San Diego, California . . . has built and worked with light microscopes which far surpass the theoretical limitations of the ordinary variety of instrument. . . . The entire optical system of lenses and prisms as well as the illuminating units are made of block-crystal quartz The illuminating unit used for examining the filterable forms of disease organisms contains fourteen lenses and prisms. . . .

When light comes into contact with a polarizing prism, it is divided or split into two beams, one of which is refracted to such an extent that it is reflected to the side of the prism without, of course, passing through the prism while the second ray, bent considerably less, is thus enabled to pass through the prism to illuminate the specimen. When the quartz prisms on the universal microscope, which may be rotated with vernier control through 360°, are rotated in opposite directions, they serve to bend the transmitted beams of light at variable angles of incidence while, at the same time, a spectrum is projected up into the axis

Where the telescope ends, the microscope begins. Which of the two has the grander view?

—Victor Hugo
French poet and author
Les Misérables, 1862
(1802–1885)

of the microscope, or rather a small portion of a spectrum since only a part of a band of color is visible at any one time. However, it is possible to proceed in this way from one end of the spectrum to the other, going all the way from the infrared to the ultraviolet. *Now, when that portion of the spectrum is reached in which both the organism and the color band vibrate in exact accord, one with the other, a definite characteristic spectrum is emitted by the organism. . . .*

*A monochromatic beam of light, corresponding exactly to the frequency of the organism (for Dr. Rife has found that each disease organism responds to and has a definite and distinct wave length, a fact confirmed by British medical research workers) is then sent up through the specimen and the direct transmitted light, thus enabling the observer to view the organism stained in its true chemical color and revealing its own individual structure in a field which is brilliant with light. [emphasis added]*¹⁷

Rife's method of illuminating microscopic structures was extraordinary. Microorganisms seem invisible to us because the human eye can see only a very narrow band of light (color) on the electromagnetic spectrum—and not in the ultraviolet range that many microorganisms reflect. However, applying certain laws of optics, Rife translated the natural emanations of the microorganisms to the portion of the electromagnetic spectrum that humans can see. By rotating the microscope's quartz prisms in various configurations, Rife literally *tuned into the frequencies* of these tiny specimens, expressed as color on what, to us, is the visible light portion of the electromagnetic spectrum.

Put another way, as Rife approached the precise frequency of the microorganism, it began to resonate or oscillate in response to the narrow band of light that was being aimed at it. The microorganism became illuminated when the light that was shone on it matched its own inherent, energetic light wave signature. Typhoid presented itself as brilliant turquoise, the cancer virus as purplish-red, and so on. (See Sidebar, "Viewing the Carcinoma Virus.")

Even when magnifying specimens only 31,000 times (its lowest range), the Universal Microscope surpassed the best light microscopes that used conventional lighting (such as the popular Zeiss dark field, oil immersion scope). It also easily surpassed the electron microscope,

which was still being developed then. Even if the electron microscope did have better resolution during Rife's time, it still would not have been useful to the scientist. An electron microscope can enlarge an image up to one million times, but it does this by bombarding the slide with electrons in a vacuum—conditions under which no living organism can survive. If a pathogen has to be killed in order to be observed, vital information is lost, such as how it functions in its natural state, what encourages its growth, and what can harm or destroy it. World Research Foundation founder Steve Ross once pointed out during an interview that the practice of killing specimens before viewing them is “like picking up a dead dog in the street and trying to figure out what the personality is. . . . You're not looking at the same organism.”¹⁸

Rife's colleague, Dr. Rosenow, was impressed with the microscope's capabilities. “Examination under the Rife microscope of specimens containing objects visible with the ordinary microscope, leaves no doubt of the accurate visualization of objects or particulate matter by direct observation at the extremely high magnification obtained with this instrument.”¹⁹

With such high resolution, not only did the Universal Microscope allow tiny microorganisms to be viewed, it also proved that harmful microbes were pleomorphic. This was discussed in “The New Microscopes,” in which the authors named many microorganisms that became visible through Rife's optical instrument.

The human body itself is chemical in nature, being comprised of many chemical elements which provide the media upon which the wealth of bacteria normally present in the human system feed. These bacteria are able to reproduce. They, too, are composed of chemicals. *Therefore, if the media upon which they feed, in this instance the chemicals or some portion of the chemicals of the human body, become changed from the normal, it stands to reason that these same bacteria, or at least certain numbers of them, will also undergo a change chemically since they are now feeding upon media which are not normal to them*, perhaps being supplied with too much or too little of what they need to maintain a normal existence. They change, passing usually through several stages of growth, emerging finally as some entirely new entity—as different morphologically as are the caterpillar and the butterfly. . . . The majority of the viruses have been definitely revealed as living organisms, foreign organisms it is true, but which once were normal inhabitants of the human body. [emphasis added]²⁰

Rife himself understood the importance of pleomorphism. “It is not the bacteria themselves that produce the disease,” he emphasized, adding that he and his colleagues “believe it is the chemical constituents of these micro-organisms enacting upon the unbalanced cell metabolism of the human body that in actuality produce the disease. We also believe,” he acknowledged, “if the metabolism of the human body is perfectly balanced or poised, it is susceptible to no disease.”²¹

Fortunately for Rife, there were a number of highly respected doctors and researchers in the medical and scientific communities who supported his work. Before Rife's third Universal microscope was completed, he met bacteriologist Arthur I. Kendall. Kendall held many important positions during his lifetime, among them Dean of Northwestern Medical School, instructor at Harvard University Medical School, Director of the Hygienic Laboratory (the forerunner of the present National Institute of Health), and chair of the Department of Bacteriology at Northwestern University in Illinois. Like Dr. Rosenow before him, Dr. Kendall had independently investigated the pleomorphic character of pathogenic microbes. In a nutrient medium he developed (called the “K-medium”), he placed bacterial cultures that transmuted into another form. Once the delighted Kendall was able to view the transmuted bacteria through Rife's microscope and further confirm his findings, the two men began working together closely. Thereafter, Rife conducted many experiments with both Kendall and Rosenow, who both made public their position on pleomorphism. In the December 1931 issue of the journal of the California Medical Association, *California and Western Medicine*, Rife and Kendall published a report of some of their experiments on filterable forms of *Bacillus typhus*. Rife wrote:

We have classified the entire category of pathogenic bacteria into 10 individual groups. Any organism within its group can be readily

Viewing the Carcinoma Virus

Although Rife was usually successful in viewing microorganisms, initially he had trouble detecting the carcinoma virus. One day, he serendipitously placed a tube of cancer culture inside an electrified glass ring filled with argon gas and left it there for about 24 hours. When he later examined the culture through his microscope, he noticed that it had acquired a purplish-red color that now made it visible. Remarkably, the specimen was still living. Thus Rife discovered a method of “staining” the cancer virus with certain frequencies on the electromagnetic spectrum, and without killing it.

changed to any other organism within the 10 groups depending upon the media with which it is fed and grown. For example, with a pure culture of *bacillus coli*, by altering the media as little as two parts per million by volume, we can change that micro-organism in 36 hours to a *bacillus typhosis*. . . . Further controlled alterations of the media will end up with the virus of poliomyelitis or tuberculosis or cancer as desired, and then, if you please, alter the media again and change the microorganism back to a *bacillus coli*.²²

Rife also described the pleomorphic nature of the cancer virus.

By continued microscopic study and stop motion photographs, it was found that the “BX” virus had many changes and cycles as so with other micro-organisms.

The virus can be readily changed to other forms or cycles of themselves by the media upon which they are grown. By [making] the “K” media slightly acid, we no longer have a “BX” as we have classified this cancer virus, but we have what we term a “BY.” In this stage or form, it is still a virus, but considerably enlarged from the initial “BX.” Still retaining a purple red refractive index, but will no longer pass the porosity of the W porcelain or diatomaceous earth filter. In this stage, the “BY” requires a much coarser N filter.

The next stage finds this micro-organism, now known as the monococoid form, in the monocytes of the blood of over 90% of carcinomatous [sic] individuals.²³

It was important that the medical community learn about the growing documentation of pleomorphism, as well as the technology available to observe it. So on November 20, 1931, a distinguished doctor named Milbank Johnson gave a banquet in his Pasadena, California home to honor the accomplishments and achievements of two men: Dr. Kendall, for his K-medium in which pathogens could be grown, and Royal Rife, for the microscope that enabled pathogens to be viewed. Among over thirty guests were some of the most prominent medical doctors, bacteriologists, and pathologists in the country. According to Steve Ross, in addition to such live meetings, over one hundred newspaper articles were written about the Universal Microscope alone in the 1930s and 1940s. Pictures of some of the original newspaper articles appear in the photo essay spread in this chapter.

Additional documents from that period show that many eminent researchers enthusiastically endorsed and used

the microscopes that Rife built. In a more recent article on Rife, Gerry Vassilatos reports that Rife’s microscopes:

were immediately obtained by Northwestern University Medical School, the Mayo Foundation, the British Laboratory of Tropical Medicine, and other equally prestigious research groups. . . . [Many] specimens were obtained and studied. . . . Active poliomyelitis cultures were studied, the virus successfully isolated, identified, and photographed in 1932 by Rife and Kendall. In these cultures the team recognized streptococcus and motile blue forms resembling typhosis. These last reports were immediately transmitted to the Mayo Foundation and duplicated by Dr. E. Rosenow. Dr. Karl Meyer (Director of the Hooper Foundation for Medical Research, University of California) came to the Rife Research laboratories with Dr. Milbank Johnson, examining and corroborating the stated results. The impossible and anomalous became fact. Bacilli could act as virus carriers. Furthermore, poliomyelitis victims evidenced a startling degree of typhosis-like associated virus.²⁴

The discovery that viruses can exist inside bacteria (in the form of *bacteriophages*) is critical, and impacts on the treatment of disease and the success or failure of rifting. This will be discussed further in Chapters 4 and 5.

Rife was not content simply to view and identify microorganisms. He wanted to cure disease. If he could identify harmful microbes by using frequency, he reasoned, he could use frequency to destroy them.

Frequency is the number of cycles per second at which an object can vibrate, commonly expressed in hertz (Hz). Everything has an inherent *resonant frequency* or *oscillatory rate*. A competent architect is aware of this principle when designing bridges. If a bridge is built without its oscillatory rate factored into the construction, a hurricane or heavy wind could cause the bridge to steadily vibrate in harmonic resonance for a long enough period that parts of the bridge (if not the entire structure) would shatter or collapse. (See Sidebar, “Gallop Gerty: the MOR of a Bridge.”) Compromising the structural integrity of a bridge by exposing it to its oscillatory rate is similar to disabling or shattering a pathogen by exposing it to *its* oscillatory rate. Rife’s microscopes, whose high magnification abilities allowed him to see how live microorganisms reacted in their environment, were indispensable to his future accomplishments. He would use frequencies to destroy tiny microorganisms—and the instrument of destruction would be the Rife Ray.

The Rife Ray

It was in “The New Microscopes” article that readers also learned about “certain lethal frequencies”: the fields emitted by the Rife Ray, which Royal Rife created eleven years after the debut of his Universal Microscope.

Under the universal microscope . . . tuberculosis, cancer, sarcoma, streptococcus, typhoid, staphylococcus, leprosy, hoof and mouth disease, and others [pathogens] may be observed to succumb when exposed to certain lethal frequencies, coordinated with the particular frequencies peculiar to each individual organism, and directed upon them by rays covering a wide range of waves. By means of a camera attachment and a motion-picture camera not built into the instrument, many “still” micrographs as well as hundreds of feet of motion-picture film bear witness to the complete life cycles of numerous organisms.²⁵

Rife designed several styles of ray equipment. There are at least four numbers that historians have used to designate the machines, but it wasn’t clear when these units were begun or finished, or when they were formally used. We do know that the earliest one, built in the 1920s, killed *E. coli* (called *B. coli* then), a common bacterium that lives in the colon. Rife continued developing his ray equipment throughout the 1930s. In 1934, he built what some people today refer to as the Rife Ray #3. It was comprised of several bulky pieces that filled a large table in Rife’s laboratory, making it not only difficult to move but also labor intensive to calibrate and operate. To produce the frequencies, the Rife Ray #3 used a Kennedy brand off-the-shelf radio receiver, which Rife also used as a transmitter. The Kennedy brand receivers were *regenerative*, which simply means that they had built-in components designed to amplify the electronic signal so it would be stronger. However, as the Kennedy receivers were not *shielded* (more about this in a moment), other types were probably preferred in the final designs.

Frequencies were emitted from the glass ray tube, which was mounted on a base on the outside of the cabinet and connected to the receiver. The ray tube used for the Rife Ray was similar to X-ray machine tubes of the era. However, it didn’t produce X-rays because X-rays are created in a vacuum, and this ray tube contained an inert gas. Rife initially experimented with mixtures of different noble gases, including argon and krypton. He eventually chose helium because it withstood “many more hours of bombardment”²⁶ than the other gases he tried. The gas-filled tube became brightly lit when a frequency of sufficient power was passed through it.

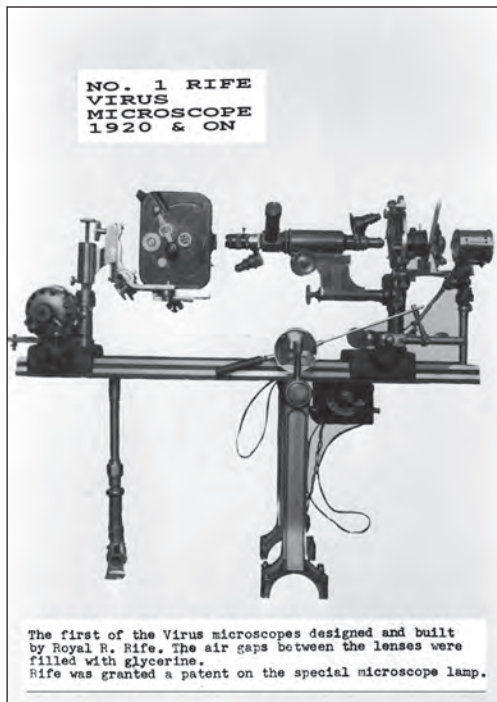
Presumed to have been more powerful than its predecessors, the Rife Ray #3 outputted about 50 watts to the tube. Fifty watts was enough power so that the frequencies emitted by the tube could penetrate through 15 inches of concrete. Even when the Rife Ray was one floor away from where the microscope stood, Rife demonstrated that after about ten minutes, every specimen beneath his microscope died after the machine was turned on briefly. The pathogens were devitalized not by the visible light emitted by the tube, but by the *electromagnetic field*, which includes electric and magnetic waves. Other bandwidth energies contributing to this effect may have included infrared and *scalar waves* (discussed in more detail shortly). Modern researchers sometimes refer to these combined fields as the “Rife effect.” The range of frequencies that Rife generally used were 190 KHz (kilohertz) to 12 MHz (megahertz).

Some components of the radio equipment included vacuum tubes. Housed inside the cabinet, the vacuum tubes were entirely different from the ray tube that was mounted on the outside of the cabinet. Vacuum tubes were somewhat fragile and bulky, used a lot of energy, and overheated easily. That is why engineers developed the transistor in the late 1940s. Unlike a hollow tube, the transistor was solid (hence the phrase, “solid state technology”). Transistors possessed all the beneficial electrical properties of vacuum tubes without any of their shortcomings. They were sturdy, inexpensive and tiny, used very little power, and could immediately turn on without requiring any warm-up time. Today, virtually all electronic apparatuses (including electromedical devices) use solid state technology instead of vacuum tubes.

Galloping Gerty: the MOR of a Bridge

The Tacoma Narrows suspension bridge in the northwestern United States—now better known as “Galloping Gerty”—is quite famous because of the spectacular manner in which the structurally defective bridge collapsed over seven decades ago. The destruction happened to be captured on motion picture film, clips of which can be seen on the Internet. In 1940, the mile-long (1.6 kilometer) bridge shattered when a steady wind provided so much energy that the bridge began shaking. When the oscillations became intense enough, the entire bridge collapsed.

The shattering of the bridge provides an excellent analogy to the Mortal Oscillatory Rate of various pathogens, which Royal Rife discovered in order to disable or outright destroy them. It took ten years before the replacement to the bridge was completed. Correctly targeted microorganisms aren’t as lucky.



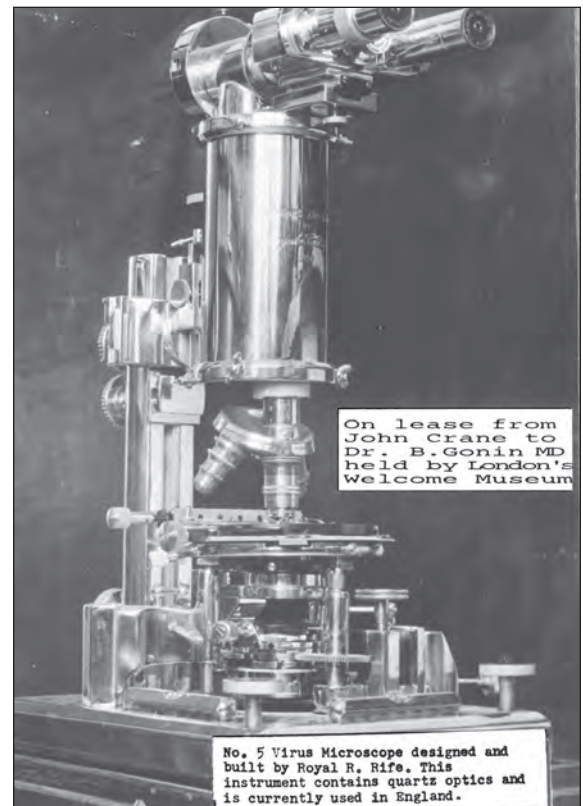
Rife's first high-powered microscope. The microscope was probably built in the late 1920s (the label was put on later by John Crane).

Courtesy of Rife Research Group of Canada

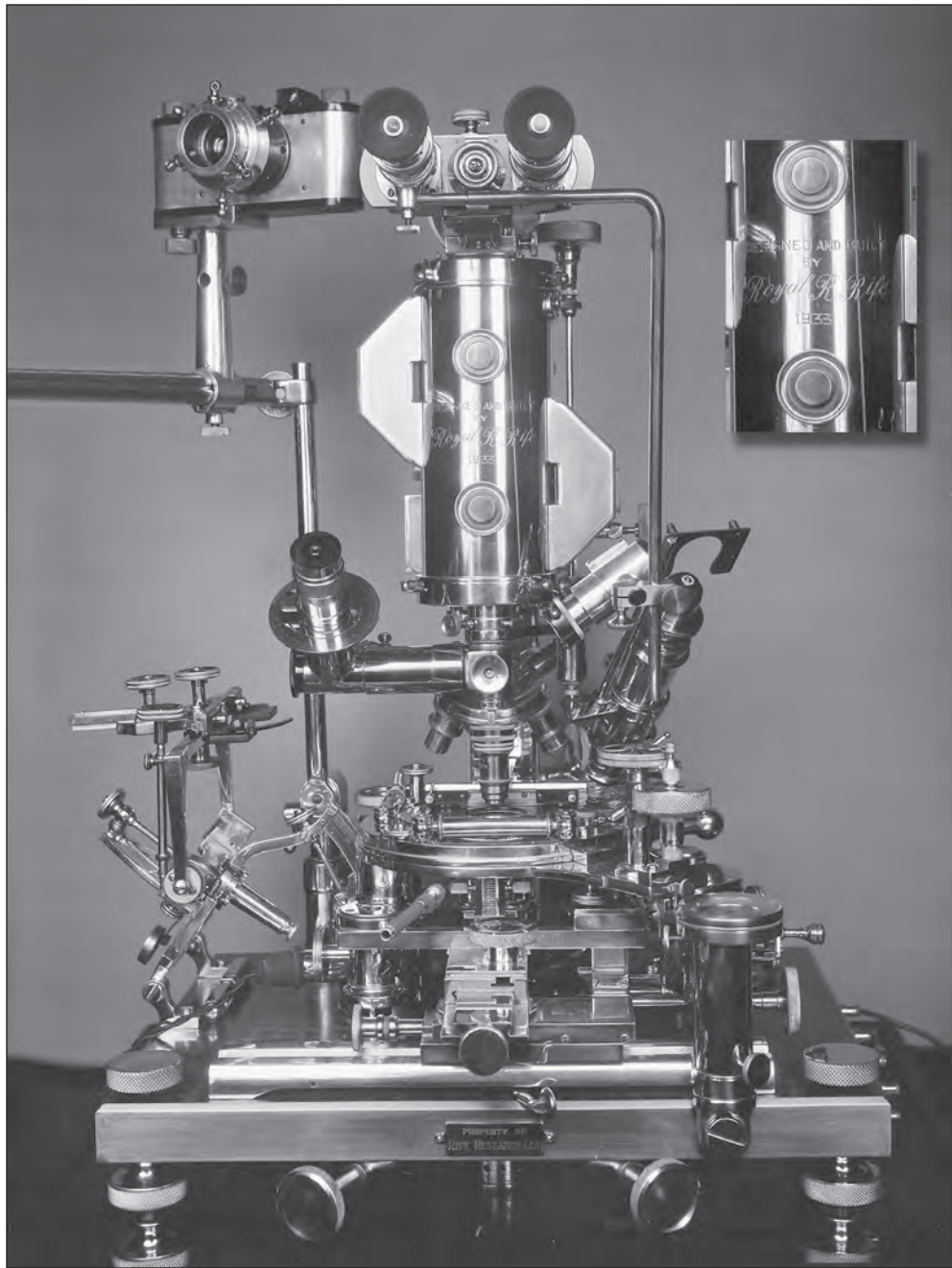


Rife's Microscope No. 4, intended for commercial production.

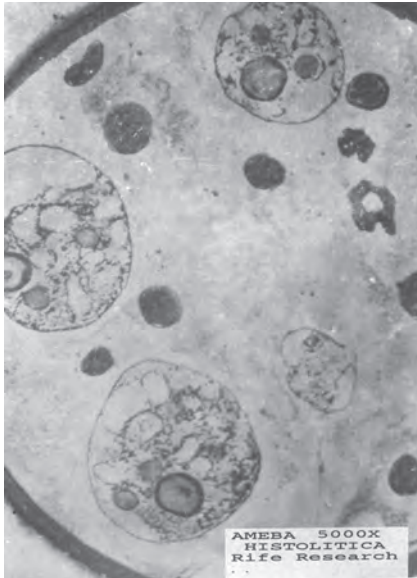
Courtesy of Rife Research Group of Canada



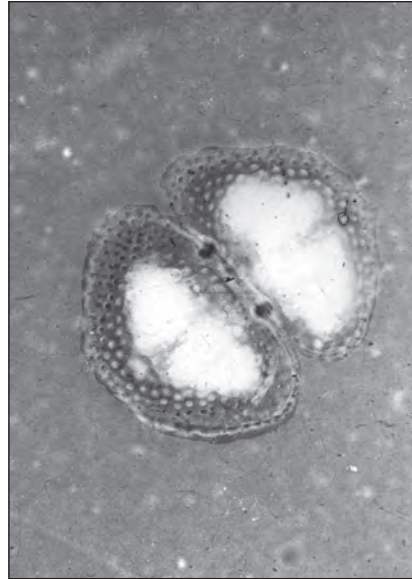
Rife's Microscope No. 5. This was his last model.



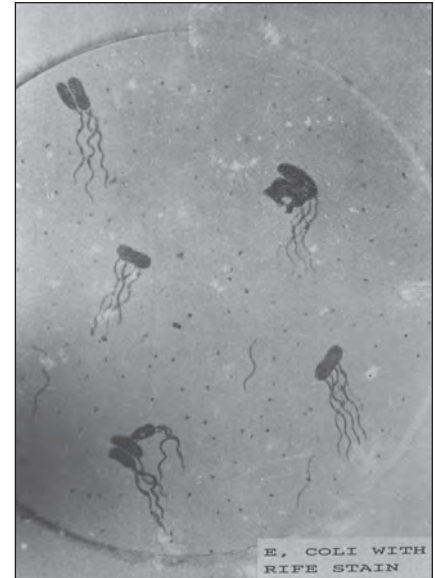
Rife Universal Microscope No. 3.
Inscription on top reads, "Designed and built by Royal R. Rife, 1933."
Plaque at base reads, "Property of Rife Research Lab."



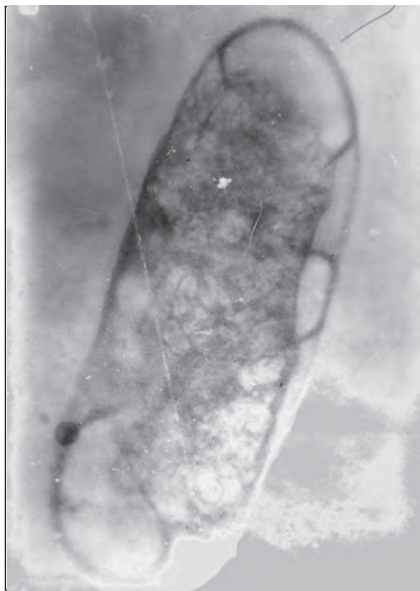
Entamoeba histolytica (amoeba),
as seen through Rife's microscope.



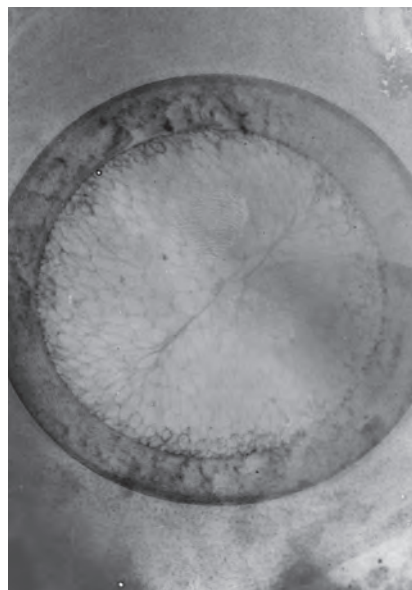
Algae cells,
as seen through Rife's microscope.



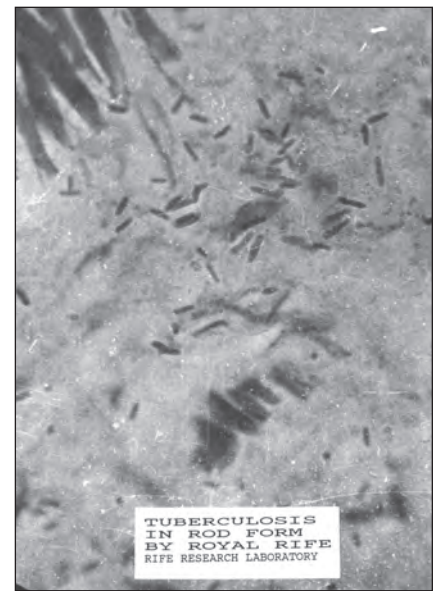
Escherichia coli,
as seen through Rife's microscope.
This specimen is stained with a dye
created by Rife, which
did kill the microorganisms.



Salmonella typhimurium,
in transition into the filterable state,
showing three filterable granules
instead of the usual one,
as seen through Rife's microscope.



Clostridium tetani (tetanus) spore,
as seen through Rife's microscope.



Mycobacterium tuberculosis
(tuberculosis), rod form,
as seen through Rife's microscope.



Front page article on Rife, *The San Diego Union*, November 3, 1929.

Rife is an expert in more lines than the average man has time to dabble in. He is an able bacteriologist, embryologist, electrical and scientific engineer, metallurgist, chemist, photo-micrographer, and he plays with scientific crime detection. As recreation he takes to target shooting in terms of half-inch bullseyes.

His chief enthusiasm, however, is the inquiry into the causes, agencies and forms of diseases, and it is this enthusiasm that has caused him to develop his various pieces of apparatus, and to refine them to an efficiency beyond all precedent.

—*The San Diego Union*, November 3, 1929

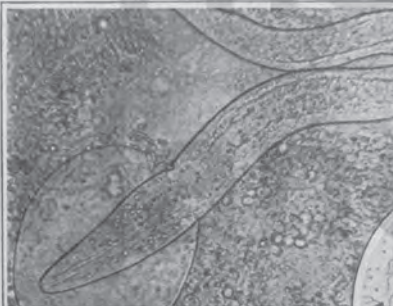


Amelia Bridges estate in San Diego, California.
Rife's first laboratory was on the top floor of the garage,
which is the small white building on the left.

JUNE, 1931
27

Movie New Eye of Microscope in War on Germs

By H. H. DUNN



Larva of the hookworm, magnified 12,000 times, is seen just after it has emerged from the egg. At right, bacteria of typhus showing the filaments.

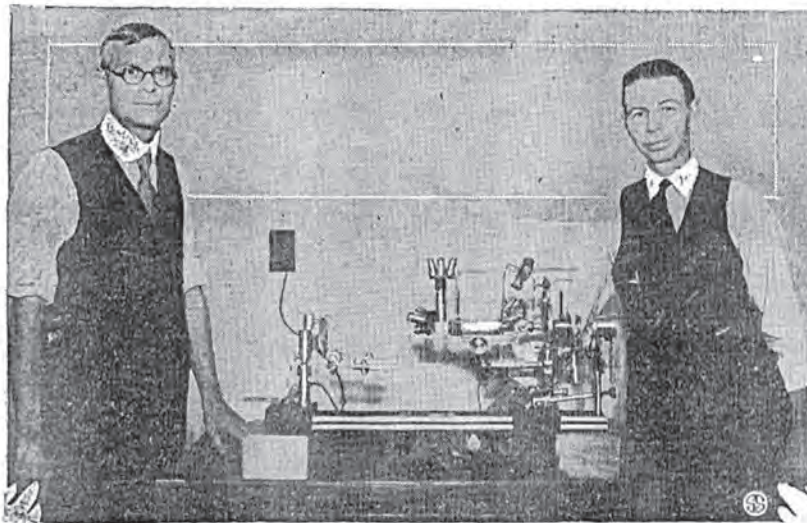


R. R. Rife, once a chauffeur, has devised a means of preserving with a movie camera the life history of man's most deadly microscopic enemies.

the time required to diagnose certain diseases may be cut from days to hours by the use of the films.

WHENCE come the actors in these strange movies? Rife propagates and rears all the microbes he studies, I learned, in an incubating plant of his own design. Deadly germs, housed in jars, are nursed as carefully as the frailest child. Delicate thermostats control the warmth of ovens in which the germs are

World's Biggest Microscope In San Diego



The world's largest microscope, shown here, is in San Diego. It is the property of Dr. Royal R. Rife, 2500 Chatsworth Blvd. At the left is Dr. Arthur Isaac Kendall of Northwestern University who collaborates with Dr. Rife, right, in his microscopic studies of filter passing micro-organisms. The instrument was built by Dr. Rife.

DECEMBER 4, 1931

IT PAYS TO
TAKE UP

San Diegan's Super-Microscope Gives First View Of Filtered Bacteria

Instrument Praised As
New Aid To
Science

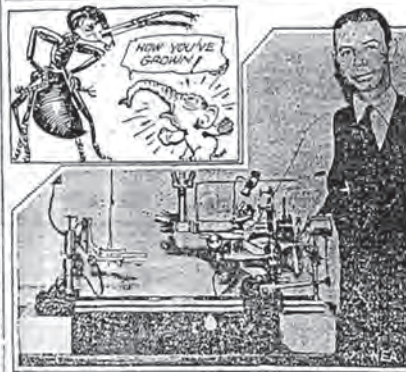
PASADENA, Dec. 4. — Using the new "super-microscope" invented by Dr. Royal Raymond Rife of San Diego, Dr. Arthur Isaac Kendall of Northwestern University Medical School has seen for the first time the exceedingly minute moving bodies that apparently carry the life of bacteria when these are induced to "dissolve" into a form that will pass through the pores of the finest porcelain filter and still remain alive.

The work was done at the Pasadena hospital, and will be reported in the official publication of the California Medical Association, California and Western Medicine.

Bacillus Used

The material used by Dr. Kendall was a culture of the typhoid bacillus, ordinarily a fairly large germ, easily visible under the higher-powered lenses of a compound microscope. By feeding it on his recently-evolved "EC medium," which apparently has the power of causing all visible bacteria to pass over into an invisible, filterable phase, Dr. Kendall induced the bacilli to go through this change. Under the highest power of the ordinary microscope, he could see nothing moving in the fluid, except a swarm of rather active little granules that could be seen only as tiny motile points.

Examination with the Rife microscope, however, these points became plainly visible as small, oval, actively moving bodies, turquoise blue in color. These appeared in all the cultures, and could be transferred from one culture to another through the fine-



A new superpower microscope which magnifies objects to 5000 times their normal size has been perfected here by Dr. Royal Raymond Rife, shown above with his invention. Six quartz lenses are used in the powerful new instrument, which magnifies on a scale which would make an ant appear larger than an elephant. Another unusual thing about the microscope is that objects seen through it are shown in true perspective, rather than in reverse focus, as is the case with previous microscopes.

pored filters: so Dr. Kendall considers them to be the actual filterable form of the typhoid bacillus.

Microscope Praised
This visual demonstration of the hitherto invisible, living and moving particles of the filterable phase of a bacillus, is hailed editorially by California and western medicine. Of Dr. Rife's microscope, the editorial says:

"Whereas our present microscopes magnify from one to two thousand diameters, in this new

microscope we have an instrument for which a magnification as high as 17,000 diameters is claimed.

"This is certainly a long stride from the initial efforts of Van Leeuwenhoek, whose simple instrument may be said to have laid the foundation for the science of bacteriology which later came into being; and by means of which science much of the world's progress in man's conquest of the infectious and other diseases has been made possible."

Copyright, 1931, by Science Service



Arthur Isaac Kendall, PhD; Milbank Johnson, MD; and Royal Raymond Rife.



Banquet held by Dr. Johnson, 1931, in honor of Kendall and Rife. Dr. Kendall created the K-medium on which pathogens fed, and were then seen as transformed through Rife's microscope.
Kendall and Rife are among the five men standing in front of the rear window.

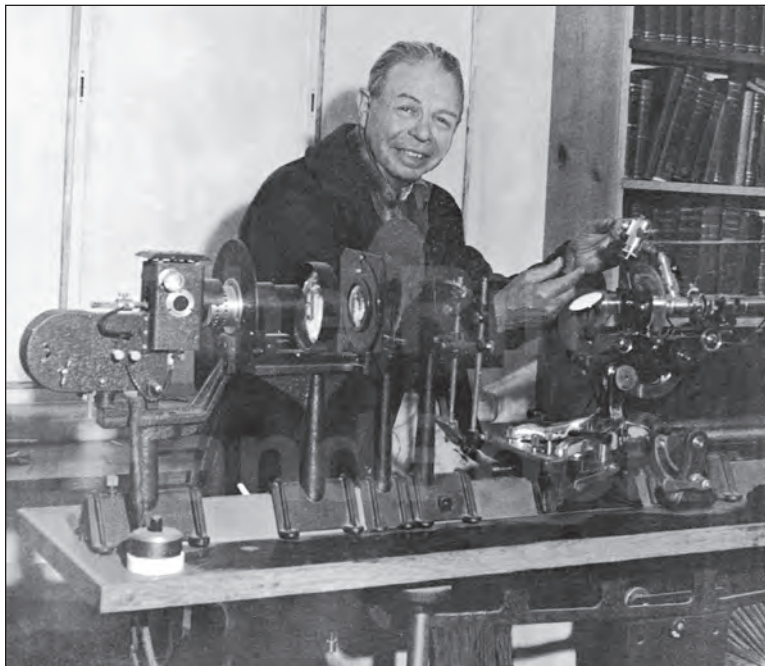
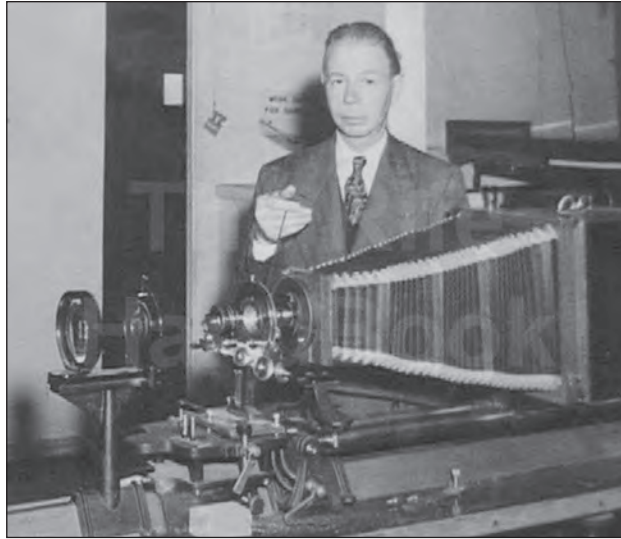


Another news article, *Los Angeles Times Sunday Magazine*, December 27, 1931, with the famous photo of Rife and Kendall. Rife was often called "Dr." as a sign of respect.

Article on Rife's microscope, unknown newspaper.

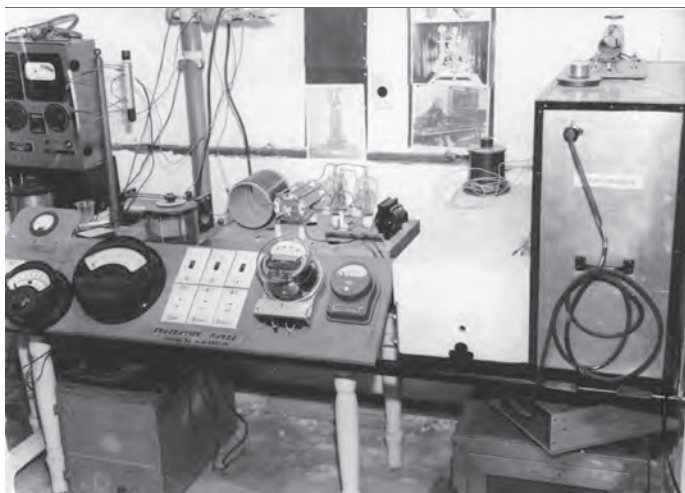
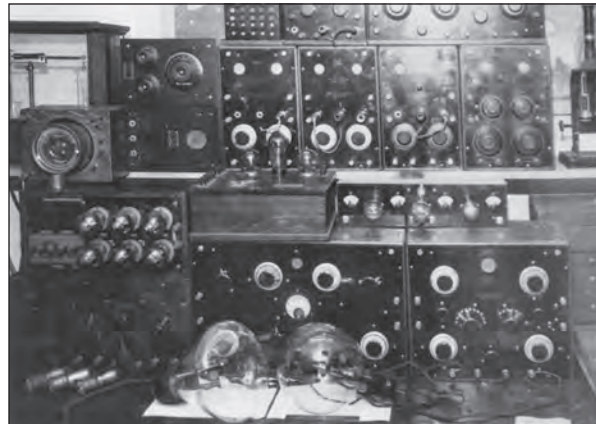


Cameras were essential tools for Rife's work.
He used both still and motion picture cameras to capture the images
of specimens seen through his microscopes.



A collection of Kennedy and other brands of radio receivers that Rife experimented with at different times. Note the gas-filled transparent tube in front, used to convey the frequencies.

Courtesy of Rife Research Group of Canada

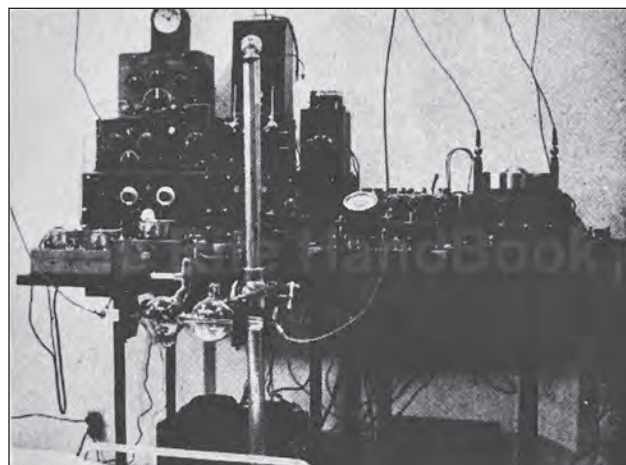


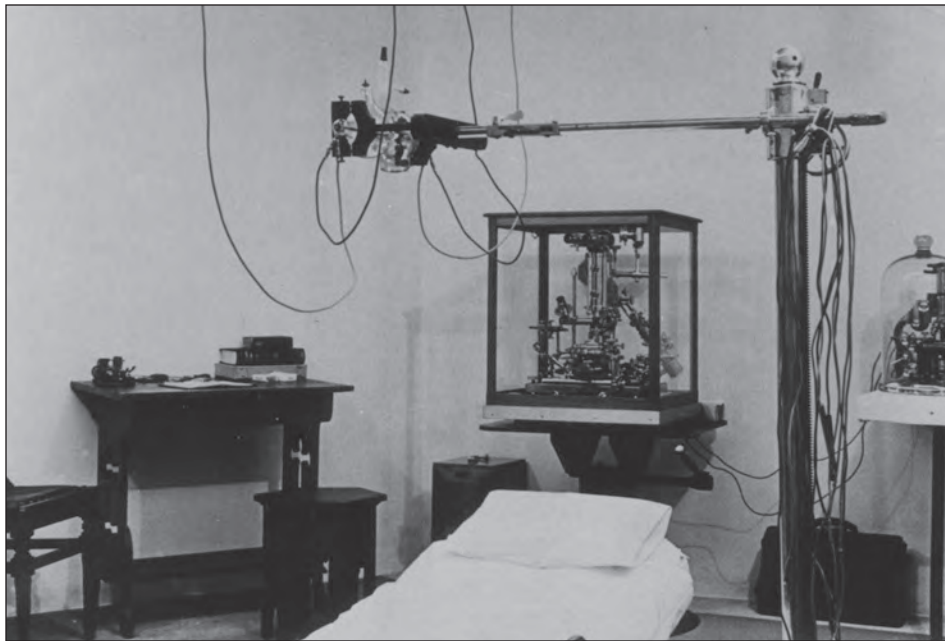
Unidentifiable equipment.

Courtesy of Rife Research Group of Canada

Rife Ray No. 3, 1934, used in a clinical trial the same year.

Courtesy of Jeff Garff





Treatment room.

Courtesy of Rife Research Group of Canada

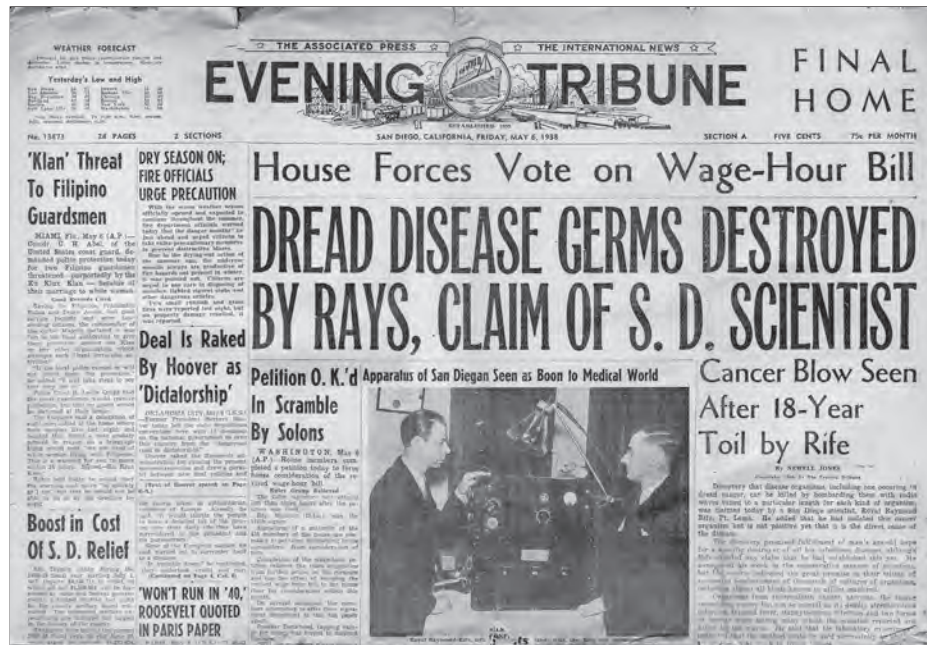


Rife Ray No. 4, 1935.

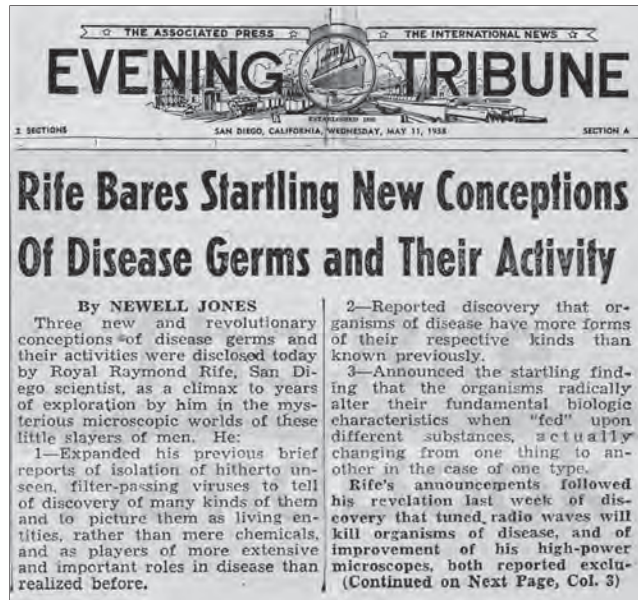
Courtesy of Jeff Garff

RIFE RESEARCH LABORATORY		81
<i>Bacillus X (Cancer) Carcinoma</i>		
<i>(Rife) 11-20-32</i>		
Filterable Virus: Passes W: K Medium		
morphology: small oval granule		
highly plastic		
resists only much monochromatic light		
angle of refraction 123/10		
color by chemical refraction Purple-red		
length - $\frac{1}{15}\mu$: breadth $\frac{1}{20}\mu$		
Polarity		
- cathode		X
leak rate in milliamperes		175 D.C.
Influence of X rays		none
" " Ultra Violet ray		slows motility
" " Infra Red		none
Thermal death point		42C. 24 hrs.
Filament voltage		10
" amperage		86
Plate voltage		928
Cycles per second		14,780,000
Wave length of super regeneration of audion tube		17 $\frac{1}{10}$ Met.

A page from Rife's lab notes for the *Bacillus X*, or Carcinoma (cancer) virus.



San Diego *Evening Tribune* article by Newell Jones on the Rife and Hoyland Beam Rays Corp. instrument, May 6, 1938.

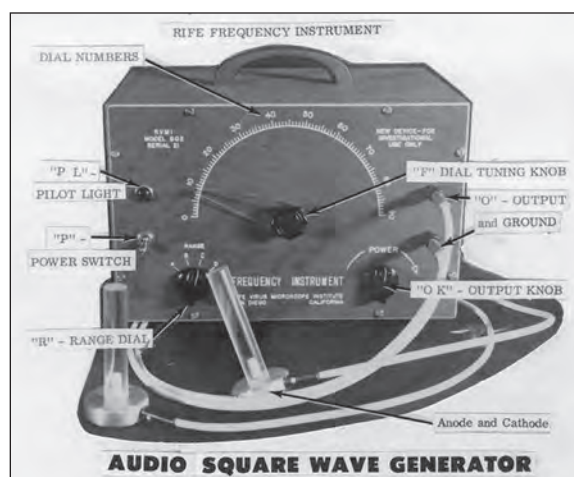


San Diego *Evening Tribune* article by Newell Jones on the Rife and Hoyland Beam Rays Corp. instrument, May 11, 1938.



Royal Rife and co-inventor/engineer Philip Hoyland,
with Beam Rays Corp. instrument, 1938.

© San Diego Historical Society; used with permission



Life Labs Inc. AZ-58 pad instrument, 1957.

Courtesy of Jeff Garff



Royal Raymond Rife relaxing with a guitar and cigarette.
He was a very good musician and played several instruments.
One of his microscopes is in the background.

Courtesy of Jeff Garff

Having spent every dime I earned in my research for the benefit of mankind,
I have ended up as a pauper. But I achieved the impossible, and would do it again.

—Royal Raymond Rife, 1967

As with all electronic equipment, Rife's frequency devices were potentially vulnerable to being affected by unwanted stray electromagnetic interference. The interference could come from motors, generators, cables carrying high levels of alternating or direct current, transformers, and even the Earth's own magnetic field. For a unit such as the Rife Ray—which required precision calibration and relied on exact frequencies to disable pathogens—even a little bit of interference could make a huge difference in whether or not the device was effective. Therefore, it was curious that with at least one of the Rife Ray models, the components were not adequately protected from stray magnetic fields.

This unwelcome variation in frequency would not have occurred had the equipment been shielded—a problem with just about any electronic device that was widely recognized even during Rife's era. *Shielding* is the use of various materials to surround and protect components so they can operate properly without interference. Any material that's conductive can be used to shield sensitive components. The material diverts the interference field so the field travels *around* the device instead of *through* it. The shielding can be used to either *keep out* the field, or *confine* the field so it doesn't disturb other equipment that's in the same room, next door, or miles away. Shielding materials include wire mesh, metal enclosures, conductive paint, foil tape, adhesive compounds, and mu-metal. Mu, made from nickel, iron, copper and molybdenum, very effectively protects against static fields and low frequency magnetic fields. Mu-metal was available in Rife's time, but it was (and still is) quite expensive. Today, to avoid interference, it's customary to shield sensitive equipment—everything from high definition cathode ray tubes to amplifier circuits to wiring. This shielding, which is internal, usually consists of small enclosures made of metal or some other material, placed around selected components inside the equipment. Occasionally, for further protection, external shielding that surrounds an entire device is used. However, this is employed mainly by electronics professionals.

I discuss shielding in some detail because it's relevant to modern equipment. Most of the shielding problems in contemporary machines involve interference with external electronics. Any good frequency device costing thousands of dollars should be shielded. An unshielded unit running in the same room as a working computer or television will create a wavy picture, static, or both. Interference can also occur during rifting, when the unit's power output

augments a signal from an amplifier—resulting in an annoying hum that many people report hearing in their television set or their phone line. Moving the frequency instrument away from the other electronics usually eliminates the hum. If sharing the same wall sockets or circuits causes interference, the problem can be corrected by using different fuses or circuit breakers.

The frequency capability of Rife's equipment spanned from what engineers call the *audio range* on the electromagnetic spectrum (measured in hertz, abbreviated Hz) to the *ultrasonic* and *broadcast* ranges (measured in megahertz, abbreviated MHz). The term “audio range” can be confusing. It simply refers to a frequency that *could* be heard *if* the electromagnetic waves were converted into sound waves. MHz frequencies (much higher, in the millions of Hz), if convertible to sound waves, would be beyond the range of human hearing; so they aren't considered to be in the “audio” range.

In some of his units, Rife used a radio frequency (RF) *carrier wave*, which was always in the MHz range. The RF signal served a dual purpose. The high-frequency signal was necessary to light the tube. But it also served as a foundation upon which other frequencies could ride it, like a ship on the ocean (the RF) carrying passengers (frequencies). Using a carrier wave with a frequency produces *heterodyning*—the combining and merging of the two, which in turn creates more new frequencies. The new frequencies result from both the sum of the originals and the differences between the originals. With Rife's units, it was sometimes impossible to determine which frequency was doing what, as all the signals sent to the ray tube were important. It was very likely the unique combination of frequencies, the wave shape, and the energy fields that did the healing.

The shape of the RF signal that was sent through the ray tube was a *sine wave*—which is symmetrical and has a smooth rounded shape. (*Square waves*, commonly used in modern equipment, could not be produced by the older units.) The ray tube distorted the waveform, which produced many *harmonics*—higher frequencies, weaker in power, created by a main frequency under certain conditions. Some of these additional, higher-frequency harmonics were even higher than what the receiver alone was capable of outputting. This helped make Rife's technology even more successful. (See Chapter 4 for more information about wave shapes and their effects.)

The ray tube was a partially directional *transmitter*. Because its power was concentrated into a small area, the

Don't confound static electricity with ecstatic eccentricity. One will leave your hair up, the other will live up in the air!

—Ana Claudia Antunes
The Tao of Physical and Spiritual,
2008

Scalar Wave Properties

Electromagnetic (EM) waves and scalar waves are different. An EM field can be separated into distinct electrical and magnetic fields that are *transverse*, or transmit at right angles from their point of origin. Scalar waves—also known as *longitudinal waves*—are parallel to their point of origin. EM waves have a beginning, middle and end, with correspondingly uneven amounts of strength. Scalar waves are *standing*, with uniform amounts of strength. One common catalyst for the release of scalar waves is their *coupling*, or engaging, with an EM field. EM fields can be generated not only by electronic devices, but also by humans. Research by Dr. Valerie Hunt focuses on human healers who emit not only EM waves, but also scalar waves.

“The concept of scalar waves,” writes British physicist Noel Huntley, “is beyond the scope of conventional science, but not quantum physics. The data on scalar waves from Maxwell’s brilliant, original electromagnetic equations was removed prior to publication.”²⁷ Scalar waves are difficult to detect using standard equipment, as they do not register on an oscilloscope. Remarkably, though, conventionally trained engineers cite their incomplete education, inadequate measuring devices, and limited experience as proof that scalar waves do not exist. This is similar to some professionals who looked through Royal Rife’s microscope and did not see various pleomorphic strains of the same microorganism because of *their* preconceptions.

Certain plasma tube units are uniquely suited to emitting scalar waves. The noble gas inside the tube is excited, the electrons of atoms are hurled into a higher orbit, and the chaotic-wave gas turns into higher-energy, coherent-wave plasma (which moves in a spiral), known as the “fourth state of matter.” Once the catalyst that caused this higher-energy state is withdrawn, the plasma collapses back into gas. In order for this collapse to occur, the plasma must release energy, one form of which consists of photons of light. The rapid move back and forth between states (gas to plasma to gas to plasma, etc.) is probably what initiates the production of scalar waves. Such waves are then received directly by certain cell structures that process and power metabolic functions. We can perceive scalar waves due to their effects: the restoration of biological tissue, and the proper function of living organisms.

practitioner placed the tube either within a few inches of the subject’s body or, in some cases, directly on the person. Dr. Robert P. Stafford, a colleague of Rife, reported that when he treated people who had cancer, he focused on six square inches at a time, slowly moving the tube so that eventually it covered the entire affected area of the body.

The Rife Ray’s ability to eliminate pathogens was based on Rife’s finding each organism’s MOR, or Mortal Oscillatory Rate, and dialing those frequencies into the machine. The May 6, 1938 edition of the *San Diego Evening Tribune* carried a now-famous article by Newell Jones explaining how the microorganisms died, through a process called *entrainment*.

Each organism requires a different wavelength. . . . [An analogy is] something similar to . . . when one musical tuning fork is set in vibration by sound waves emanating from another fork struck nearby. Another example is the vibration which almost everyone has noticed a pipe-organ note causes in windows or furniture of the room where the instrument is being played. Again, a similar thing happens when a radio cabinet rattles from sounds passing from its speakers.

It is commonly known that the sound from the first object causes the second to vibrate in harmony. . . . The thing where the original sound-

producing vibration occurs has the same pitch, wave length, [and] frequency . . . as the one giving the sympathetic response. . . . [One object may] have a frequency which only is a part of a complex frequency possessed by the other; that is, one may be a simpler tone which is one element in a complex tone characterizing the other.²⁸

The destruction of a microorganism has also been compared to the cliché of a soprano singing a pure, focused tone that shatters a glass whose resonant frequency matches that particular tone. While this glass-shattering phenomenon is real, the analogy of sound to describe how Rife’s equipment worked is technically incorrect. A sound wave is a mechanical motion. Rife’s units could affect microorganisms through many inches of concrete, which can absorb mechanical motion (and thus prevent it from being transferred elsewhere). Therefore, something else was responsible for the destruction of pathogens: *electroporation*, the abnormal permeability of either a microbial cell wall or a human or animal cell membrane. The permeability is most pronounced during an energy transfer, or *when there’s a match in wavelength* (frequency). The Rife Ray—through *resonance*, or the matching of wavelengths—transferred energy to a microbe’s cell wall. This increase in energy disturbed the electrical charge of the pathogen, causing a *change in shape and pattern*,

which compromised its structural integrity. Due to this electroporation, a pathogen would begin to destabilize.

Today, we understand one more probable manifestation of Rife's technology: *scalar waves*. Scalar waves are not part of the electromagnetic (EM) spectrum. A few innovative researchers have proposed that some modern plasma units emit scalar waves (as Royal Rife's instrument apparently did as well)—and that these scalar waves help regenerate the body as well as possibly devitalize pathogens. See Sidebar, page 215, "Scalar Wave Properties."

When Rife finally did find the MOR, explains chiropractor James Bare (who holds the patent on the Bare-Rife frequency machine), the microorganism "would lose its color and become clear as it absorbed the resonant energy [of the frequency] and changed or died."²⁹ Sometimes the pathogens shattered. Other times, they simply weakened and lost their motility (the ability to move spontaneously and actively). Jones explained that some pathogens "writhe as if in agony and finally gather together in deathly moving clusters."³⁰ "Some types," Rife himself stated, "will explode or disintegrate and some will gather together like log jams or agglutinate."³¹

All of Rife's frequencies were specific to the organism. They had to be accurate. The inventor stated, "One tenth of one meter [or a smaller denomination] off and you have nothing. . . . [The frequency must] be absolutely correct for that individual organism."³² (When Rife mentioned meters, he was referring to the *length of the wave* that corresponded to the actual frequency in Hz.)

How did Royal Rife determine the MOR of a pathogen? First he examined thousands of specimens and tissue cultures from laboratory animals and humans through the Universal Microscope. As usual, the microorganism was illuminated in its own colored light while the surrounding field remained white. Then Rife tested the samples to ensure that a specific disease correlated to a specific pathogen, using the allopathic medical model of Koch's cause-of-disease hypothesis. Finally, Rife would turn the dials of the Rife Ray ever so slightly, switch on the power, and then examine the slide under the microscope to see if this time he had found the correct frequency.

The entire process was tedious, repetitious, and solitary. However, Rife was used to working this way. He had used the same painstaking observational skills years earlier when he tuned the microscope, bathing pathogens in their own light so he could view them. His colleagues described him as a man of immense patience. "I've seen Roy sit in that doggone seat without moving, watching the changes in the frequency, watching when the time would come when the virus in the slide would be destroyed," said Benjamin Cullen, who watched the scientist regularly.

Twenty-four hours was nothing for him. Forty-eight hours. He had done it many times. Sit there without moving. He wouldn't touch anything except a little water. His nerves were just like cold steel. He never moved. His hands never quivered.

Of course he would train beforehand and go through a very careful workout afterward to build himself up again. But that is what I would call one of the most magnificent sights of human control and endurance I'd ever seen.³³

As far as we know, Rife's technology did not harm the human or animal host. The oscillatory rates of humans and small mammals are much different from, and more complex than, the MORs of microscopic viruses, bacteria, and fungi. Rife was confident about the safety of his equipment, he stated on numerous occasions.

With the power that is in these [ray tubes], there is absolutely no harm. . . . I had my [ray] tube right here . . . about 11 or 12 inches away from the slide in the microscope. And here I was with . . . that tube going . . . year after year . . . and it never harmed me any.³⁴

And:

I stood in front of that thing [his ray tube] for 30 years finding these different frequencies that devitalize these different bacteria. And that thing was shooting on me right here [his chest], but it is absolutely harmless to normal tissue.³⁵

The non-invasive nature of this new method, plus the promise that it held, began generating great excitement in the medical community. Now they needed more.

Case Studies

By the end of 1932, Rife was destroying the typhus bacteria and numerous viruses (including the ones for cancer) that were grown in cultures and inoculated into lab animals. His equipment was able to destroy these pathogens whether they were in Petri dishes or in living animals. Then, as now, standard scientific protocol for testing drugs and other medical treatments involved using two groups of infected animals: the group that received treatment, and the control group that did not. If significantly more animals in the treated group lived than did those in the control group, this presumably indicated that the treatment was effective.

To prove the effectiveness of the Rife Ray, Rife was obliged to follow standard medical procedure. He injected

his rats with the disease organisms. Then he withheld treatment from the control group (all of whom died), and gave treatments to the other rats (all of whom lived). Within the confines of scientific protocol, Rife was kind to the animals. To spare them pain (which also made them easier to handle), he administered anesthesia before giving them injections or doing surgery.

Rife described the scientific protocol in detail:

On one series of cancer tests, I inoculated the virus which I had isolated and filtered from an un ulcerated breast mass into an albino rat. The tumor was allowed to grow and then I surgically removed the tumor and again isolated and filtered the virus from a portion of the ground up tumor and inoculated the next rat and repeated this procedure 411 times to prove that this virus was the causative agent of cancer.³⁶

Eventually, Rife had to prove that pathogens could be destroyed in humans without harming the host. To secure human subjects for his case studies, he sought the assistance of Dr. Milbank Johnson.

Johnson was the physician who had hosted the historic dinner honoring Kendall and Rife after the Universal Microscope was completed. He was enormously wealthy, with assets reportedly worth around \$15 million. After receiving a Doctorate from Northwestern Medical School in 1893, Johnson was awarded a Doctor of Law degree in 1916 from the University of Southern California, and another degree in 1920 from Northwestern University. The medically-related posts he held during his illustrious career included Professor of Physiology and Clinical Medicine at the University of Southern California; Chairman of the Claims Committee of the Pacific Mutual Life Insurance Company in 1920 and Claims Director of that company for most of the years from 1906 until 1936 (his retirement); member of the board of directors at California's Pasadena General Hospital; Chief Surgeon of the Southern California Edison company; and member of the Los Angeles Board of Health.

Johnson's humanitarian nature and his determination to eliminate illness are amply demonstrated in his surviving letters. The fact that his first wife died in 1920 of cancer, along with a *Streptococcus* infection following radiation treatments, undoubtedly made him even more interested in Rife's clinics. It was Dr. Johnson who convinced Timken to help finance Rife's new laboratory, which was built around 1936. Generally, Johnson remained loyal

and supportive to Rife for as long as the two men were in contact. Pivotal to all phases of Rife's career, Johnson advised and guided Rife. He generated publicity. And he helped Rife with projects.

Johnson himself initiated most (if not all) of Rife's clinical studies because Rife disliked the spotlight and preferred to focus on his laboratory research. To work with Rife, the doctor assembled some of the most prominent professionals with outstanding credentials (most of them had MD, PhD, or DDS degrees) from Canada, England, and the United States. These professionals did independent studies, performed laboratory research, and used the Rife Ray with paying clients as well. To test Rife's equipment on people with cancer and other illnesses, three clinics were set up, all of them funded by Johnson.

The first clinic, established in 1934, was at the La Jolla home of Ellen Scripps under the auspices of a University of Southern California "Special Medical Research Committee." Rife referred to this committee later on a legal document, and this particular clinic is often cited as a success by proponents of the technology. However, Rife researcher Dave Felt, based on a surviving letter by Dr. Johnson, believes that this committee was unofficial and the university's name was used "in order to have some liability

coverage for Scripps because they were using her property. Johnson probably asked Dr. Rufus B. von KleinSmid, president of USC, if he could form the clinic under the umbrella of the university, and Von KleinSmid said yes."³⁷

Most of Milbank Johnson's letters have been recovered. However, those dated between June 1934 and early 1935 are missing, so we can only guess at what actually occurred. From Dr. Johnson's surviving letters, we learn that he had no help and no assistants, and that Rife's involvement in the 1934 clinic was minimal. In fact, Johnson had to plead with Rife—in many ways the quintessential scientist who secludes himself in his lab—to get involved with the clinic. We know that between a dozen and 16 people were treated, most of them for cancer and a few for tuberculosis.

Of those in the 1934 study who were treated for cancer, some apparently did go into remission, because tissue and fluid samples sent to pathologist Alvin Foord at the Pasadena General Hospital were stated to be free of any traces of cancer. However, Johnson did report later that one man returned to him in the early part of 1935. The cancer in his cheek had not improved, so Johnson sent him to a hospital to have the corresponding eye, along with the malignant tissue behind the eye, surgically removed.

Those who say it
cannot be done
should not get
in the way of the
person doing it.

—Chinese proverb

In a December 1935 letter Johnson wrote to Dr. Mildred Schram of the International Cancer Research Foundation in Philadelphia—Johnson was apparently trying to solicit her assistance—he stated, “I am also going to give you a brief of the cases which I treated in La Jolla [the] summer before last with their present status in so far as I can find the patients. There was nothing done at that time of a conclusive nature.”³⁸

If results of the first trial were not exactly “conclusive” in the stellar way that all the participants had wanted, subsequent trials were more promising. The second clinic established by Johnson was at the Santa Fe Hospital in Los Angeles. It opened the first week of November 1935. As with the first clinic, it was Dr. Johnson who ran the Rife Ray.

The third clinic opened September 1936 at the Pasadena Home for the Aged, another Scripps facility. This study, which focused on cataract reduction and elimination, yielded impressive results: Dr. Johnson reported complete restoration of vision in 30 of 31 people he treated. The Pasadena clinic remained open until May 1937. Unfortunately for us, the frequencies used to eliminate the cataracts are not mentioned in Johnson’s report.

The equipment used in the 1936 clinic is thought to have been the Rife Ray #4. Johnson, eager to get the machine into clinics, enticed an electronics engineer named Philip Hoyland to do some part-time work for Rife. Hoyland built a compact, portable unit that could perform as well as Rife’s best prototype. It was highly successful. As Rife researcher Shawn Montgomery describes it, “The thing was a *bona fide* cure-all, provided you tuned it to the correct prescribed pathogenic frequency using a precise methodology. This was 1935 to 1936.”³⁹

Around this time, Rife also set up a new laboratory in Point Loma with the generous financial assistance of Henry Timkin. Some of the people who worked with Rife in the lab, participated in clinical trials, or administered the Rife Ray to their own clientele, were among the most respected professionals in the country. I mention the following people by name, along with some of their affiliations, to give a sense of the proficiency, talent, and enthusiasm that surrounded Rife and his work: Agnes Bering (who is believed to have worked with Rife in his laboratory from 1915 to 1946); T.O. Burger, MD; E.F.F. Copp, MD; James B. Couche, MD (pharmacist, physician and surgeon); Ben Cullen; George Dock, MD (Professor

Nikola Tesla, Albert Abrams, and Georges Lakhovsky: All Invented Forerunners of Rife’s Ray Machine

The inventions of three exceptional scientists in the field of electromedicine either directly contributed to or undoubtedly influenced Royal Rife’s own creation, the Rife Ray. The three were Serbian Nikola Tesla (1856–1943), Russian Georges Lakhovsky (1869–1942), and American Albert Abrams (1863–1924).

Around 1891, Tesla produced the Tesla Coil. It produced high-voltage, low-current, AC electricity that could run high frequencies. This may have given Rife the idea for part of the construction of the Rife Ray. Three years later, on February 6, 1894, Tesla was issued US Patent 0,514,170 for a plasma lamp. (Plasma is a fourth state of matter, formed when certain gases are extremely excited by high voltage.) Rife utilized a plasma tube to deliver the frequencies for his Ray device, so it’s difficult to imagine that he could have disabled harmful microbes without Tesla’s prior contribution.

In 1903, Georges Lakhovsky had postulated a theory (which was later proven) that all living cells—including microorganisms that cause disease—can act as both an emitter and receiver of very high frequency oscillations. We know today that cells do in fact conduct all kinds of waves: radio waves, microwaves, infrared waves and biophotons, not to mention electricity. Lakhovsky invented the very effective Multi-Wave Oscillator to energize cells and restore the function in living systems. Descendents of his technology, as well as copies of the original device, are still being used today. Royal Rife must have understood that his Rife Ray had a “secondary” effect of charging the body’s cells along with its stated goal, that of destroying harmful microbes.

Albert Abrams, a medical doctor born in San Francisco, California, invented the Oscilloclast in 1918. To eliminate disease, Abrams taught, it was necessary to deal with the electronic structures of atoms. He discovered that disease produces changes in the rate and manner of rotation of the electrons in atoms of affected tissue. If the electrons are not vibrating normally, the entire organism will be out of balance. Furthermore, he stated, *each disease has its own vibratory rate, affecting the motion of electrons in a unique way*. Abrams was able to analyze a single drop of blood, using sound and electronics, to determine the disease that was afflicting an individual. It’s difficult to believe that Rife didn’t know about Abrams. They both lived in California, where Rife could have heard about Abrams’s theory of disease and been inspired by the idea of finding the Mortal Oscillatory Rate for pathogens.

Like Rife, Abrams and Lakhovsky were denounced as quacks. Tesla was given some recognition, but some of his inventions and papers were stolen and he died penniless, without emotional support or recognition. Fortunately, the groundbreaking technologies of all these visionaries, along with Royal Rife, are now being recognized—and used.

of Medicine at Tulane University and later President of the Las Encinas Sanitarium of Pasadena, California); C. Fischer, MD (of the Children's Hospital in New York); Alvin G. Foord, MD (pathologist at Pasadena General Hospital and one-time president of the American Society of Pathologists); Oscar C. Gruner, MD (pathologist of the Archibald Cancer Research Committee at McGill University in Canada); Richard T. Hamer, MD; Joseph Heitger, MD (an eye doctor and good friend of Johnson); Arthur I. Kendall, PhD (inventor of the K-medium and observer of pleomorphism in pathogens); his daughter Alice Kendall (who assisted Rife in the lab); Royal Lee, PhD (inventor of spectrographic and other equipment, and the developer of whole food supplements that are still produced today by the company he founded); Ray Lounsberry, MD; Karl Meyer, MD (pathologist and Director of the Hooper Foundation for Medical Research of the University of California in San Francisco); Waylen Morrison, MD (Chief Surgeon for the Santa Fe Railway); Edward C. Rosenow, MD, ScD, and LLD (who had observed pleomorphism and was on the Mayo Clinic staff); Henry Siner (trained in microscopy by Rife and sent to England to demonstrate a virus microscope); Verne Thompson, electronics expert; Jack Free (Rife's primary lab technician); Ernest Lynwood Walker, BAS, ScD; and Arthur W. Yale, MD (Director of the Yale Foundation in San Diego). In addition, Charles P. Steinmetz from General Electric furnished Rife with hundreds of tubes, manufactured precisely to Rife's specifications.

Meanwhile, across America and in Europe, other doctors were administering Rife's therapy in their own offices. Numerous pathogenic microorganisms were being deactivated or killed outright. Among them were *Bacillus anthracis*, *Escherichia coli* (or *E. coli*, called *Bacillus coli* or *B. coli* in those days), *Staphylococcus*, *Streptococcus*, and *Treponema pallidum*. People recovered from sarcoma, carcinoma, leprosy, tuberculosis, typhoid, tetanus, gonorrhea, pneumonia, and other ailments. "I saw cancer and tuberculosis cases that had completely recovered," Rife wrote.

I saw Dr. Couche's brother who had come over from England. He had a 30 year sinus condition with terrible drainage. Dr. Couche used the

frequency instrument on him and he was well in three weeks. Dr. Couche had treated Dr. Hamer, MD for a sinus condition which cleared up. Dr. Couche had treated Dr. Butterfield, MD's brother-in-law who had a stiff wrist—a tuberculosis of the bone which cleared up. Also I saw a Mexican boy who had osteomyelitis of the bone which Dr. Couche cleared up with the frequency instrument. I saw George Lemm being treated by Dr. Couche for tuberculosis and he had come out from Chicago to die. He was sent from the Vulclain home. As soon as they found

out that Couche was getting results, they tried to get all of their patients back but Lemm said no, that he was going to finish up with Couche and he completely recovered.⁴⁰

Rife noted that two frequencies instead of one were needed to eliminate all the symptoms of tuberculosis because more than one pleomorphic form of the harmful microbe was involved in the disease. For cancer, Rife and his associates learned that treatment should be given for three minutes once every three days to give the

lymphatic system enough time to remove the toxins. (Modern frequency devices are different from Rife's original units, so treatment times are longer, and breaks between sessions are rare. For cancer protocols using contemporary equipment, see Chapter 5.)

According to Gary Wade, it was possible for the Rife Ray to have destroyed an entire cancer tumor in a single treatment consisting of one to one-and-a-half hours; but the resulting amount of dead tissue would have become "a feast for a massive bacterial infection" that "could lead to liver and kidney damage and general toxemia." In the three-minute treatments that were administered over a longer period of time, the Rife Ray killed "a thin outer layer of cancer tumor tissue at one time," thus allowing "the body's immune system to remove this layer before the next treatment."⁴¹ The administering doctors emphasized the need to drink two quarts or more of water a day—otherwise, the liver, kidneys and other organs would become overloaded from trying to eliminate, too fast, too many dead pathogens and their waste products. The production of waste did not worry the doctors: they understood it to be a normal outcome of detoxification. Because the Rife Ray didn't do anything except what it

It is really quite amazing by what margins competent but conservative scientists and engineers can miss the mark, when they start with the preconceived idea that what they are investigating is impossible. When this happens, the most well-informed men become blinded by their prejudices and are unable to see what lies directly ahead of them.

—Arthur C. Clarke, 1963
award-winning British
science fiction and science writer,
and author of *2001: A Space Odyssey*
(1917–2008)

was designed for—the devitalization or destruction of pathogens—it could not be said to cause “side” effects as the phrase is commonly meant. The body’s reaction was a natural, reasonable, and in fact hoped-for process that occurs when corpses of harmful microbes and their waste products are being eliminated.

The years 1936 through 1939 were tumultuous. The Beam Rays Corporation was formed to manufacture more units, with both Rife and engineer Philip Hoyland listed as co-owners of the company. (Incredibly, Hoyland was given 55% ownership, leaving Rife with only 45%—a grievous error that Rife would later regret.) In May of 1938, a Hoyland-built compact unit (which used an RF carrier wave) was featured in lengthy articles appearing in the San Diego *Evening Tribune*. It is believed that Dr. Hamer was the first doctor to use this Beam Rays device in his clinic in the spring of 1938, followed by Dr. Couche (who had also used the #4 machine in the years preceding the Beam Ray model). Those lucky enough to have their health completely restored sent Rife sworn documents, some of which are posted at www.rife.org.

Royal Rife, as well as his investors, co-workers, friends and colleagues, hoped that this unit would help Rife and his technology achieve the recognition they deserved. Unfortunately, the promising period that Rife was enjoying was about to end. Beam Rays Corporation had manufactured probably fewer than fourteen units before Rife was attacked—viciously and methodically, from numerous quarters.

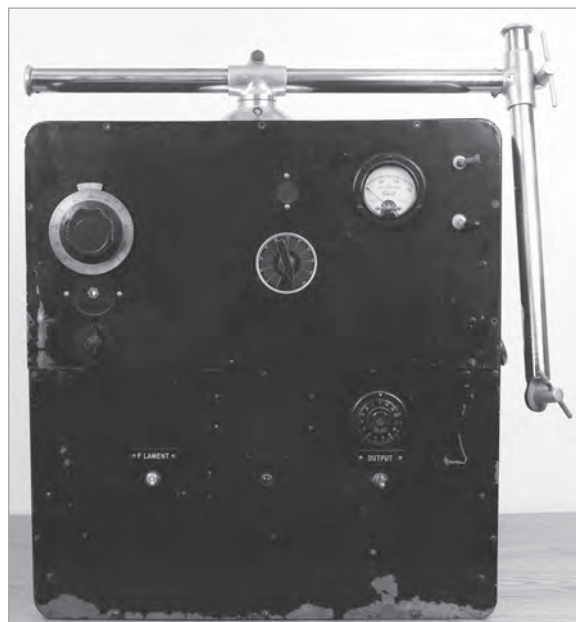
THE PERSECUTION OF RIFE

It was in 1939 that a series of catastrophes began, which adversely affected Rife and the many people who depended on his unit to heal them. In Chicago, Morris Fishbein was expanding his personal and professional power as head of the American Medical Association and chief public relations officer of its journal—despite the fact that he had spent only five months as an intern at Durand Hospital. “Note,” biographer Morris A. Bealle advised, “that all other medical graduates *are required* to serve two-year internships in some ‘accredited’ hospital. . . . [But Fishbein’s] accession to editorship of the *AMA Journal* was a travesty on modern medicine, since he had never practiced medicine a day in his life.”⁴²

Fishbein was notorious for writing unfavorable reviews of products whose manufacturers did not advertise in the *AMA Journal*. If advertisers paid his rates, even ineffective and unsafe products could be publicized in the journal and receive its bogus seal of approval. “Some of the products [that Fishbein slanders] are harmful,” Bealle acknowledged, “but the Fuhrer makes no distinction between worthy articles and [quack remedies].”⁴³ Among the items Fishbein condemned were ironized yeast (a nutrient, similar to brewer’s yeast), Alka-Seltzer (an innocuous and useful over-the-counter antacid containing mostly bicarbonate of soda), and Sal Hepatica (a widely publicized and effective mineral salt laxative). Anything and everything was subject to Fishbein’s public smears: he called chiropractic a “malignant tumor” and osteopathy and homeopathy, “cults.”⁴⁴

Beam Ray Corporation Clinical Model ray machine, discovered around the year 2005. This unit is operational, the way it was in Royal Rife’s time.

Courtesy of Jeff Garff



One of Fishbein's most fraudulent deceptions was the vilification of an electromedical diagnosis unit called the Ellis Microdynameter. He deliberately published a faked picture of it in the *AMA Journal*, and then submitted a falsified description of the machine to the April 2, 1935 Congressional Record. Fishbein also set up dummy corporations through which advertising revenues were eventually funneled back to him. As a result, he became quite wealthy. So did the AMA.

Many of Fishbein's investments were a matter of public record. The *Illinois Medical Journal*—which, as the publication of the Illinois Medical Society, had always been critical of unethical acts by the AMA—had proclaimed in an editorial back in December 1922: “The AMA today is a one-man organization. The entire medical profession of the United States, insofar as its organization is concerned, is at the mercy of one man and a Board of Trustees that is subservient to him.”⁴⁵

Unfortunately, the few voices raised to protest Fishbein's tactics and nearly unlimited power were unable to stop him. Fishbein was finally removed from his post at an AMA convention in 1949, but not before he inflicted a lot more damage. There is evidence that the AMA—or the AMA as represented by Fishbein—played a key role in Rife's decline by organizing agents to steal the inventor's work, undermine the Beam Rays Corporation, and halt production of the units. In “Deconstructing Beam Rays, Incorporated,” Shawn Montgomery describes this methodical scheme in intricate detail. Not surprisingly, he begins with a biography of Morris Fishbein, “the founder of America's corrupt medical status quo. . . [who] was infamous for using his sway as the powerful AMA chief to ‘buy into’ or ‘buy out’ any legitimate medical device, drug or process that crossed his path. ‘Buy into’ for profit, or, if it competes with already profitable enterprises, ‘buy out’ to suppress. This was Fishbein's *modus operandi*. It is difficult to find any information on Morris Fishbein that does not condemn him.”⁴⁶

Montgomery acknowledges that he was unable to find references that Fishbein acknowledged, quoted,

A certain amount of resistance to new ideas is normal and functional in science . . . which can result in some medical innovations being ignored or rejected without an adequate assessment. [The medical community] favor[s] the acceptance of theoretically glamorous, pharmaceutical, and high technology innovations over simpler and less profitable ones. . . . Resistance would be more understandable if the new approach were only marginally superior to the old, but that is not the case. . . . One wonders how many potentially valuable medical discoveries are being overlooked because they are too simple and not profitable enough.

—Robert Forman, MD
“Medical Resistance to Innovation”
Medical Hypotheses, 1981

or condemned Rife (or even met him). However, Montgomery does point out that Ben Cullen, a close friend of Rife's who worked in the lab, discussed at length the Fishbein “conspiracy”—a discussion that was recorded on tape. Furthermore, Cullen's account was corroborated by Rife's associate Henry Siner, by Rife himself, and later by Rife's attorney, Bertrand Comparet. Apparently, Fishbein had heard about Rife from a man with a malignant tumor who was cured by the Rife Ray. “Through this man,

Fishbein not only discovered Rife, but saw verification as to the reality and efficacy of this procedure. According to Cullen, Fishbein then dispatched two [representatives] from Los Angeles . . . to approach Beam Rays Corporation and attempt to buy into the company.” Beam Rays declined their offer, so Fishbein's representatives then “bribed one of Rife's partners, Philip Hoyland, with \$10,000 to compel him to proceed as their agent—or, as Cullen calls it, their ‘stooge.’” With the assistance of a high-priced lawyer, Hoyland “attempted a hostile takeover of Beam Rays

through a contrived lawsuit aimed at replacing the Board of Directors (and positioning Hoyland and his gang as the replacements).” This included “conspiring with C.R. Hutchinson”—a corporate entrepreneur who saw an opportunity to get rich by promoting the technology that cured cancer—“to slowly freeze Rife out of their shared ownership deal.”⁴⁷ There were additional deals and “side” deals, designed to split up the ownership of Beam Rays Corporation even more. The structure of the corporation was not only incredibly convoluted, but also probably illegal.

Another unscrupulous act Hoyland committed was the complete redesign of the Beam Ray. Montgomery points out (just as Comparet had) that the device could not be patented—for it was “a variable frequency generator hooked up to a helium tube. It couldn't do anything different enough or distinct from already existing equipment to be eligible for patent consideration. It was obvious to all that the only things of value in the process they were endorsing (or selling) were the MOR frequencies. And they only had value if they were

secret.”⁴⁸ Of course Rife, Hoyland, and a very few trusted associates knew the frequencies—but the company’s board of directors, executive officers, and shareholders did not. If the frequencies were common knowledge, there was nothing to prevent others from building their own equipment. This would mean no compensation to Rife for his vision, energy, time, and hard work. Therefore, Hoyland started building the units to disguise the frequencies as well as the methods used to generate them. See Insert, “Decoding the Mysteries of the Rife Machine.”

One might generously concede that Hoyland’s redesign of the Beam Ray was justified—except, as Montgomery summarizes:

It wasn’t long before it became apparent that Hoyland’s revamped design for the Beam Ray Machine was unstable. Hoyland was constantly called upon to go to the doctor’s office and “fix the machine”: recalibrate dial settings, service a leaky tube, solve overheating issues, solve “frequency drift” problems. As the summer of 1938 waned, Beam Rays Corporation started to become unglued. [From] reading the letters, transcripts [and] depositions, there is a sense that a stark realization was slowly dawning upon them—both collectively and as individuals—that this hastily arranged business venture might be as inherently unstable as Hoyland’s machines were turning out to be.⁴⁹

Making a bad situation even worse, Hoyland also defrauded a group of wealthy British doctors who had paid for several ray units, but to whom he sent incompletely assembled and improperly calibrated equipment—which, as a result, did not operate correctly. Attorney Bertrand Comparet later called it “deliberate sabotage. . . . They [Rife and his associates] wanted a saleable instrument and Hoyland was making junk.”⁵⁰

One of the most sad and frustrating aspects of this whole situation was that Royal Rife passively allowed it to happen. Like many geniuses devoted to science, Rife refused to get involved with the business end of his beloved research. Montgomery bluntly states:

He could do just about anything he wanted to when it came to tinkering, building, conceptualizing, formulating or configuring. But when it came to “the art of people,” Rife was a bit of a dummy. Rife was the first one to admit that he was not a businessperson. Imagine his trepidation at having among his inventory of inventions a little box that demonstrably cures cancer and any infectious disease—a thing that

not only needs to be marketed, but demands it. So what did Rife do? He started giving away ownership and control of his invention in order to pass this “business responsibility” onto others. He signed over 55% ownership of the Beam Ray device to Philip Hoyland. Rife gave him a controlling interest because he felt that would provide just enough incentive to make it work. Rife’s attorney [at the time] . . . the man responsible for notarizing the agreement, thought this was insanity and counseled Rife to substantially reduce Hoyland’s percentage. But Rife was adamant. Hoyland had designed and built the version of the machine in question while working for Rife over the last few years for very little pay, [so Rife thought] it was fair. . . . A pliable, vulnerable and somewhat inept . . . Rife allowed himself to be manipulated by people he trusted . . . [including Philip Hoyland, who used him] as a document-signing puppet.⁵¹

After the trial, Ben Cullen stated that Philip Hoyland had admitted to him that although he had accepted the ten thousand dollar bribe “to scuttle the whole Beam Rays operation,” he later “was very sorry and wished to God he’d never accepted it.”⁵² But by then, the damage to Rife was irreparable. Even though Hoyland lost the court case (and of course left the company), Beam Rays Corporation had spent so much money on the case that it was now bankrupt.

With all these crises, it’s not surprising that Rife began having a problem with alcohol. Attorney Bertrand Comparet would later confirm that Rife’s affinity for alcohol was catalyzed by his fear of being put on the witness stand during the trial. After the trial ended, however, Rife couldn’t quit. Drinking would continue to be a problem for the rest of his life.

Around this time, a law was passed by the Federal Communications Commission that heavily impacted Rife with yet another burden. (The FCC grants licenses to broadcasters who meet its requirements.) The new law prohibited the transmission of a certain range of RF frequencies without a license. The law was intended to protect radio broadcast stations and their listeners from stray RF signal interference. But it also prevented Rife’s therapy from being administered because the Rife Rays relied on radio frequencies as an integral part of the treatments. To comply with the new legal requirements, Rife had to completely reconfigure his units.

For this new task, Rife hired electronics engineer Verne Thompson. Thompson, who’d had experience as a police radio repairman for the San Diego Police Department,

Decoding the Mysteries of the Rife Machine

How Did He Do It?

Royal Rife's best machine, when calibrated properly, had an over 90% success rate in eliminating conditions ranging from *Staph* infections to cancer. But not all of his units were successful. This has led contemporary researchers to ask: What made some machines effective while others were not? Also, why has it been so difficult to consistently duplicate Royal Rife's most promising cases? These questions are important, because a significant failure rate for even one serious condition can cost people their lives. Despite an impressive track record for nearly every health challenge, many modern units have too often been unsuccessful when used to treat cancer. While they have worked far better than chemo and radiation—if only by reducing pain and improving quality of life—Rife researchers (and those who are ill) have wanted and expected more.

Equipment manufacturers, wanting to duplicate Rife's successes, have constantly experimented with different designs. We finally have a good frequency for cancer. But this wasn't always available. For those interested in history, here is an account of some of the obstacles that researchers have had to overcome in order to resurrect Royal Rife's best technology.

Unearthing the Relics

The major obstacle to learning the secret of Rife's success has been the lack of reliable data, in part due to incomplete historical records. For a long time there were tantalizing but only partial clues from what was available: Rife's surviving lab notes, decades-old correspondence, early film footage, and photographs. Then in 2001, someone discovered many reel-to-reel audiotapes in an old trunk, featuring discussions between Rife and several colleagues. The recordings were converted to CD and made available to the public. Listening to Rife and his friends discuss the equipment and case studies provided more information as to how his equipment worked, but critical information was still missing.

Around the same time, what was believed to be an original Beam Rays machine was found in an obscure location and carefully dismantled by a British research team that included engineers Aubrey Scoon and Stuart Andrews. Analysis showed that Royal Rife appeared to have borrowed a number of components from the work of other groundbreaking inventors, including Nikola Tesla, Georges Lakhovsky, perhaps Reinhold Voll, and especially Albert Abrams. The researchers also knew that Rife's equipment had

been redesigned more than three different times, at one point to accommodate a new FCC law regulating the use of radio frequency wavelengths. How a unit operated depended on when it had been built and who had built it. Unfortunately, existing photos did not provide enough details about the equipment to provide definitive clues. Plus, as it turned out, this museum Beam rays equipment was not one of Rife's best units. The team misidentified it, and mistakenly believed that it worked when it didn't. This led them to formulate plausible, but incorrect, theories about how the machine generated frequencies.

In 2004 an elderly nurse, who had been associated with Rife and worked with John Marsh (one of Rife's colleagues in his later years), gave boxes of valuable documents and audiotapes to US frequency generator builder Jeff Garff. Three years after, Garff and a small group—which included Jason Ringas of the now-defunct Rife Research Group of Canada and engineer Jim Peters (an older gentleman familiar with tube technology)—deciphered a schematic of a Beam Rays Corporation instrument built by Philip Hoyland. A working model was made, using antique parts that were still available. However, the schematic of the device was incomplete and the group could only guess how the device worked. Their guess, although reasonable, turned out to be incorrect. Thus more time was spent on a dead end.

One year later, in 2008, Garff purchased a Beam Rays instrument—one of the original ones that had been built in the 1930s by Beam Rays Corporation—from Dr. Larry Low of Toledo, Ohio. Around the same time, Garff reported that he obtained a copy of the original 1939 Beam Rays trial manuscript, which stated that the Beam Rays Corporation had produced two different designs: the laboratory model and the clinical model. From reading the trial testimony, Garff and engineer Jim Peters realized that the schematic they owned belonged to the laboratory model, while the actual instrument that Garff had obtained was a clinical model. Now they had to untangle which machine was doing what. By 2010, the original Beam Rays clinical model was repaired and various features were evaluated with a spectrum analyzer. The analysis disclosed that Philip Hoyland—who became Rife's engineer in 1935, and who in 1936 began building the clinical device that was sold by Beam Rays Corporation in 1938—had deliberately obscured how the frequencies were transmitted. This made it virtually impossible to determine what those frequencies actually were.

The Deceptions

Shawn Montgomery gives an excellent description of the various ways in which some of Royal Rife's machines were altered, configured and disguised.

As . . . different versions of the Beam Ray Machine came out of Hoyland's workshop, it started to become something that was so technically far removed from Rife's original approach that it was (from Hoyland's perspective) debatable whether or not Rife had a stake in it anymore. Rife's old device was . . . big, clunky, modular . . . Hoyland's new machines were smaller, sleeker, and portable. Hoyland combined recent advances in electronics with sophisticated circuit design, more advanced than the "old school" circuitry Rife had employed. . . . On Rife's old device the dial settings indicated the frequency of the output signal. . . . Hoyland's new machines took the MOR frequencies and hid them within the circuitry of the machines so that the dial settings would not give the true output frequency, but an encoded numeric equivalent. The output signal on Hoyland's machines was generated by an indirect means within the machine, unlike Rife's original device (whose output signal was generated directly). . . . Rife's old machines were designed to mainly present the frequency in question, and Hoyland's new machines were designed to mainly hide the frequency in question.

This brings us to the final point of difference in the two machine camps. Rife's original machines were high-frequency devices. He found that the MORs for most bugs were in the radio frequency (RF) range, very high. So Rife's frequency instruments were designed to provide maximum power at these higher ranges. Hoyland changed all of that—and in doing so, he messed with the frequencies. Hoyland's idea was to convert Rife's discovered MOR frequencies by . . . translating them down to a lower [frequency]. . . . The result was a whole new set of numbers, a whole new set of frequencies, a whole new set of MORs, a whole new electronic encryption method to scramble these new numbers, a whole new waveform, a whole new power signature (fundamentally different than the old one), a whole new bandwidth, a whole new approach—a whole new machine.⁵⁴

Had Hoyland built the Beam Rays Corporation devices in a straightforward way, their mode of operation would have been easily interpreted by modern researchers. Although Hoyland was not able to take over the Beam Rays Corporation, he did accomplish his goal of deceiving others who might try to duplicate the original technology.

Besides the problems caused by Hoyland, lab notes from various periods caused a great deal of confusion. The frequency for the same pathogen was sometimes recorded differently for different machines. Which was correct? Some of Rife's notes on the cancer virus, and on the filterable forms of *Bacillus typhosus* and *Bacillus coli*, contained errors because the generators that Rife was using had technical limitations. It would not be until 2016 that the British Rife Research Group would finally issue a paper with the correct numbers.

Another problem was, there were two RF (radio frequency) signals coming from a single ray tube. Were there two MOR frequencies for one pathogen? We do know that with tuberculosis, two MORs were needed so that both forms of the dangerous microbe were destroyed—otherwise, the infection would return if only one form was targeted. However, with two signals, it was usually difficult to tell which frequency was the actual MOR. And what purpose did the non-MOR signal serve?

What about the effects of combining two frequencies, which produced other complex frequencies called *sidebands*? Was it only one of the frequencies that existed *within* the sidebands that turned out to be the pathogen's actual MOR? How much depended on what machine was being used?

Then there was the issue of the waveform. Some researchers insisted that the shape of the wave was the deciding factor in achieving cures. Sine waves are gentler than square waves, and the harmonics they contain are negligible. What effects on the body's tissue did each waveform have, and did the different wave shapes affect the pathogens differently?

Some researchers claimed better results with only certain noble gases in the plasma tube. Others wondered whether plasma was needed at all. Couldn't metal electrodes contacting the body be used instead of a light tube, as both appeared to function equally well as transmitters? And, although some experimenters believed that an RF carrier wave was needed to drive the frequency into the body, other experimenters obtained good results without an RF carrier wave. Considering the possible biases of the researchers—some of whom built and sold their own frequency equipment—how could the average person know the truth?

What about many of the audio range (lower) frequencies that a few of Rife's associates began using in the 1950s? Many of these numbers worked, but what contributed to improved well-being? It's possible that, in addition to pathogen devitalization, the body's immune response was being boosted or regulated. Medical doctor Robert P. Stafford, a colleague of Rife's who used the technology extensively until his death, believed that some of the frequencies were effective not because they targeted noxious microbes, but because they stimulated the adrenal glands and supported immune function, thus helping the client's own system fight the infection.

Contributing Factors Challenging Us Today

Modern researchers are frustrated that some disease states are more difficult to eliminate now than in Rife's time. Several factors contribute to this difficulty:

- ◆ *Lengthier sessions.* People may have required briefer sessions in Rife's time due to differences in the design of the original equipment. However, we don't have enough data, thanks to the medical establishment's ban on Rife's machines.
- ◆ *Multiple pathogenic causes of cancer.* Besides Rife's *BX* and *BY* viruses, several other pathogens appear to play a role. These include the Human *Papilloma* Virus (implicated in cancer of the uterus, penis, ovaries, nose, esophagus and lung); Hepatitis B and C (liver cancer); and the bacterium *Helicobacter pylori* (stomach cancer). Targeting Rife's cancer virus is still mandatory for cancer, but these other pathogens need to be addressed when necessary.
- ◆ *Virulent new pathogens.* We now must deal with dangerous microorganisms that (partly due to genetic engineering) cause more damage and are much harder to treat than those confronted by Rife and his medical colleagues. To name just a few, there are Lyme and its equally hard-to-treat co-infections; Morgellons (characterized by strange fibrous, non-living parasites); and methicillin-resistant *Staphylococcus aureus* or MRSA (the result of our overuse of modern-era antibiotics).
- ◆ *Toxins.* Over the past century, the unprecedented use of harmful debilitating chemicals, food additives, and genetic engineering (not only of microbes, but crops) has made us more susceptible to new diseases and degenerative conditions.
- ◆ *Electrosmog.* Rife and his contemporaries didn't use cell phones, computers, microwave ovens, and other gadgets that cause severe DNA damage.

One issue that Rife himself did not publicly discuss was the normalization of tissue. In hindsight, it's clear that the therapy was about more than simply killing or devitalizing pathogens. Cancer cells have a much lower membrane potential (lower voltage) than normal, non-cancerous cells—as evidenced by the electromagnetic (EM) signatures that they emit. The Rife Ray's EM field contained many different wavelengths known to beneficially affect living tissue. These effects included the restoration of cellular voltage, which corresponds to increased energy, the removal of waste (including chemical carcinogens), and the more efficient intake of nutrients. All these are functions of healthy cells, not unhealthy cells. Related to this, we don't know what frequency was used to eliminate cataracts in the 1936 clinic. Was the frequency that Rife used restorative in nature? Or did it involve pathogens? If so, which one(s)?

Another topic not addressed by Rife, but considered by modern researchers, is the likelihood that the EM field from the Rife Ray was either tapping into restorative scalar waves directly, or helping the body tap into them. (See page 215 for more information on scalar waves.)

One more area of debate in the Rife research community is the effectiveness of electrode (pad) units versus ray tube (radiant plasma) units. Devotees of radiant plasma units point out that Rife was not happy with the later change of design from a ray tube to electrodes—and that if he wanted to use electrodes or a metal antenna in his initial units, he would have. He may have chosen gas-filled tubes because of the many different types of fields emitted by radiant plasma that produce a beneficial effect. However, it cannot be denied that electrode devices are very effective as long as the correct frequencies are used. Clinical trials worldwide show that both methods of delivery work. However, there are some advantages of radiant plasma units that electrode units don't have, and vice-versa. These differences relate to how each piece of equipment delivers the frequencies, how each delivery method affects the body, and the health conditions under which each type of machine should or shouldn't be utilized. (See Chapter 4 for detailed information.)

After many years of conjecture, failed experiments, and jubilant successes, we are closer to knowing what made Royal Rife's best machines so successful. However, we must not remain stuck in the past. We can acknowledge Rife's contributions while striving to improve his technology. How this therapy will evolve to meet the needs of these complex, stressful times is in the hands of future rifers.

had been doing all the repairs on Rife's equipment after Beam Rays Corporation closed. In the early 1940s, Thompson and Rife designed a new ray tube instrument that, although patterned after the best Beam Rays device, was quite different. The RF in the KHz and MHz ranges in Rife's previous instruments had interfered with radio broadcasts on at least one occasion, and could have done so in the future. So, to comply with the new law, this new device utilized low frequencies in the hertz Hz ranges. I'll discuss the details of this shortly; but for now, let's continue with the attacks on Rife.

The systematic attempts to undermine Rife continued. "The [American] Medical Association ruled," writes Vassilatos,

that no [state medical] society member who maintained use of the Rife Ray tube system would be permitted to continue medical practice in the United States. Morris Fishbein . . . extended his legal arm to inform each member of the Rife team of the impending legal process. All Ray tube units would be recalled, impounded, and destroyed by Federal Court order, under penalty of fines and imprisonment.⁵⁴

The AMA did as it had threatened. It applied its clout with the state medical societies to forcibly close any clinic that was using ray equipment. Every doctor was threatened with the loss of his license and a malpractice lawsuit unless his unit was relinquished—a difficult constraint, as these doctors had paid for their machines. Dr. Richard Hamer, who had bought a Rife Ray in the late 1930s, was one of the physicians who reluctantly visited an AMA office, probably in San Diego. Rife researcher Dave Felt relays a conversation about that era with Dr. Hamer's son Don: "Dr. Hamer was told—we don't know by whom—to get rid of the machine or lose his MD license. Don said that

his dad was really excited and happy with the machine, and that it worked extremely well. But he had to comply."⁵⁵

Dr. James B. Couche, as well as his colleague Dr. Yale, refused to relinquish his machine. "These two surgeons later stated," Vassilatos reports,

that for 22 years after this action, they continued to successfully treat and cure thousands of patients with the Rife Ray tube devices which they secretly maintained. Dr. Yale published a large and concise chronological account of patients treated and cured in his practice throughout that 22-year period. Notwithstanding the fact that 60% of severe (cancer) cases brought him were medically [inoperable], incurable, and hopeless, Dr. Yale confirmed that all of these persons were yet alive and living happy, full lives.⁵⁶

Threats and intimidation are key ploys used to coerce people into submission. However, successful suppression also means altering the historical record. This prevents people from realizing that things used to be different (better). With their memories altered or wiped clean, entire populations tend to remain more submissive and complacent. Vassilatos writes:

Fishbein, the editor and chief censor of the AMA, saw that Rife's name would be stricken from all . . . publications, that no professional journal would dare publish anything by Rife, and that no mention would ever be made of Rife's achievements in formal proceedings. Inescapably linked with the pharmaceutical trusts, Fishbein's actions were all too conspicuous.⁵⁷

Barry Lynes recounts similar orchestrated attempts to rewrite history. Twenty years after the historic 1931 dinner honoring Kendall and Rife, some of the attendees denied that the Universal Microscope worked, that they had been present at the dinner, or that they even knew Royal Rife at all. These denials are astounding, considering that many of these people had been publicly quoted in newspapers and magazines as having worked alongside Rife—and that a photograph taken of the banquet attendees had been publicly distributed! The intimidation tactics must have been severe indeed.

One can only imagine how Rife must have felt after being betrayed by some of his formerly supportive colleagues. Consider Arthur Kendall, who isolated and noted the pleomorphic characteristics of typhoid bacillus with Rife, and then published a paper on their findings. After retiring to Mexico in 1942, he wrote to the California Department of Public Health that his

Corruption Has Many Faces

Alfred Sloan and Charles Kettering, the founders of the Memorial Sloan-Kettering Cancer Center in New York City, had long and prosperous careers at General Motors, the car manufacturer. Although Kettering discovered that adding grain alcohol to gasoline would boost mileage, eliminate knocking in the engine and limit poisonous fuel emissions, he later abandoned this high-performance gasoline formula in favor of inferior-performing lead additives that every industry mogul knew were highly toxic.

—summarized from "The Secret History of Lead"
The Nation, March 20, 2000

contact with Rife had been very limited. Alvin Foord of the Pasadena General Hospital, who did the pathology tests for Dr. Johnson during the 1934 clinical trials, later denied any involvement at all.

With support from backers of Fishbein, a heavily organized, public slander attack on Rife and his colleagues escalated. Participants included the allopathically-oriented American Medical Association, the American Cancer Society, and Memorial Sloan-Kettering Cancer Institute in New York City. Executives from the Rockefeller Foundation, who were friends with the chief administrators of the AMA, also denounced Rife and his technology. All of the establishments that attacked Rife were partially funded by or directly connected to the pharmaceutical industry. Note that Sloan-Kettering specialized then, as now, in treating cancer with radiation and chemo. It also had, and continues to have, administrative ties to the American Cancer Society. (See Sidebar, “Corruption Has Many Faces,” for yet one more side of this institution.)

Organized meetings were held in which doctors who had never even looked at microorganisms through the Universal Microscope condemned Rife’s research, the frequency therapy, and the doctors who used the technology. Rife’s supporters were blasted by the press, professionally and personally intimidated, and threatened with the loss of their practitioner licenses. The abundant funding and resources that had been Rife’s in the 1930s were no longer available, which made the mass production of a high-powered Rife Ray no longer feasible.

It was during (and despite) this time of intense AMA intimidation and harassment that Dr. Raymond E. Seidel and M. Elizabeth Winter published their article on “The New Microscopes” in the February 1944 issue of *The Journal of the Franklin Institute*. However, the publication of this article was an exception. Despite the prestige of Rife’s defenders—and the hundreds of articles that had appeared in newspapers and journals like *Scientific American*, the July 13, 1932 “Proceedings of the Staff Meetings of the Mayo Clinic,” and publications of the Franklin Institute and the Smithsonian Institution—after the mid-1940s, most of the positive publicity for Rife evaporated. Furthermore, publications containing articles on the Universal Microscope were disappearing from archives and libraries. In 1986, Steve Ross of the World Research Foundation stated that in the US, no references could be found to Rife or his microscope in any of the 350 electronic databases that the organization was using.⁵⁸

Much current medical advice is quackery.

—James LeFanu, MD
British physician, author,
and medical journalist,
best known for his weekly columns
in London newspapers,
the *Daily Telegraph* and
the *Sunday Telegraph*
(born 1950)

Those who insist that they surely would have heard of Rife and his inventions had they “been any good” need only observe the methods used to suppress his work. If Rife’s supporters could be pressured enough to rescind their support, withdraw financial backing and even deny knowing him, imagine what the general public—which had no firsthand experience of the man or his inventions—could be persuaded to think. The Rife Ray clearly worked. The Universal Microscope could easily have shown how microorganisms respond to their environment. Plus, there were the proofs of people’s lab reports and clinical results. But here was simply too much money invested in allopathic drugs and its affiliated businesses—doctoring, hospital care, anesthesiology, surgical supplies—to allow a non-invasive modality to be widely utilized. If frequency therapy worked, then expensive drugs and other allopathic treatments might not only be rejected, they could even become obsolete, no longer the only or even the main healing modality. The best way to rebalance the system would be through non-invasive methods, rather than from the ingestion of poisonous drugs.

Rife’s misery deepened. And then, in October 1944, a different kind of tragedy struck. According to a coroner’s report secured by Dave Felt, Milbank Johnson died of a rupture in his heart just before his 73rd birthday. Even though the friendship between Johnson and Rife had become so strained that they had not spoken to each other in seven years, Johnson had still been a close friend, sponsor, and champion. To Rife, losing Milbank Johnson may also have felt like losing a vital connection to a better past. Rife continued to drink to relieve his stress.

To be fair, not everyone in the medical community who opposed Rife’s technology was motivated by greed. A sizeable number of doctors had trouble accepting the fact that the tiniest microorganisms, such as viruses, could be seen live through any microscope. It had never been done before. Also, “live” meant that these minuscule organisms could do some pretty amazing things—such as change their form, size, function, and virulence. If microbes could transform, and their transformation was based on the terrain in which they lived, this put the responsibility of healing back into the hands of the sick. It also meant that some cherished beliefs about biology, biochemistry, and medicine were invalid. To those whose identities were based on entrenched establishment beliefs, pleomorphism not only seemed like science fiction, but it threatened their sense of self.

A few doctors knew, or had heard of, colleagues who'd looked through the Universal Microscope and had seen what Rife saw. But they were still skeptical. Now, it's understandable if one cannot accept favorable second-hand reports from even highly respected colleagues—after all, empirical evidence is much more convincing (and more scientific). But it's harder to fathom the fear of researchers and doctors who refused to even *look* through the microscope. One would think that they'd want every tool available to help the people they said they wanted to serve.

Still other professionals looked through the microscope and did not see the specimens at all. How could this be? Lynes analogizes their intractability to the reactions of the Fuegian natives who were met by the explorer Magellan in 1520:

When Magellan's expeditions first landed at Tierra del Fuego, the Fuegians, who for centuries had been isolated with their canoe culture, were unable to *see* the ships anchored in the bay. The big ships were so far beyond their experience that, despite their bulk, the horizon continued unbroken: the ships were invisible. This was learned on later expeditions to the area when the Fuegians described how, according to one account, the shaman had first brought to the villagers' attention that the strangers had arrived *in* something which although preposterous beyond belief, could actually be *seen* if one looked carefully. We ask how could they not see the ships, . . . they were so obvious, so *real*. . . . Yet others would ask how *we* cannot see things just as obvious.⁵⁹

The reason Vassilatos gives is not psychological, but monetary. RCA was the manufacturer of an electron microscope, which competed with Rife's.

Regardless of why others failed to see what Royal Rife and his enlightened contemporaries saw, however, the outcome was the same. For Rife, to fall from a position of being respected and praised to being ridiculed and ignored—not to mention being betrayed by friends and seeing decades of work pilfered and destroyed—was more than he could bear. By 1950, he was drinking daily. He still conducted some experiments, wrote, and was contacted by professionals and a few friends. But the vital foundation of his work no longer existed.

Then in October 1957, Royal Rife's wife Mamie died. The loss of this major source of comfort and love in his life was another trauma. We can only speculate the effect that this had on the scientist.

JOHN CRANE, JOHN MARSH, AND THE NEXT GENERATION OF FREQUENCY DEVICES

Seven years prior to Mamie's death, Rife met John Crane. To pay for food, Rife was selling his remaining equipment piece by piece. Crane bought a huge amount of everything, although he did not compensate Rife nearly enough for what he bought. (When Crane's house was later raided, many items—among them photographs, medical records, reports, and pieces of the Universal Microscope including some very expensive hand-cut quartz prisms—were stolen by government authorities.)

The year 1953 brought another key player to the Rife saga: John Marsh. Marsh had recently moved to San Diego to obtain medical treatments for his wife, who had cancer; but her doctors said that there was nothing they could do for what they believed was a terminal condition. When Marsh was assigned as supervisor to John Crane at their workplace, Convair Aeronautics, Crane told Marsh about Rife. After considerable persuasion, Rife gave them an old Beam Rays instrument, which they repaired. Marsh's wife was cured after six sessions.

While the 1930s Beam Rays unit benefited the Marshes, it could not be distributed for public use because it lacked the qualifications for a new FCC license. If Rife's technology was to survive, his equipment had to contain newer electronic components that would not only make them accessible to the average person—portable, affordable, and easy to use—but also follow the FCC's legal requirements. Thus a new company, Life Labs Inc., was born. Rife, John Crane, and John Marsh worked together in the 1950s and early 60s on new instruments based on Rife's technology. Verne Thompson was hired by Life Labs to make their equipment, updating the audio frequency instrument he had built around 1942. In 1953, the AZ-58 was launched.

The AZ-58, also a ray tube instrument, transmitted frequencies in the hertz range and of course did not interfere with radio broadcasts. The wave shape was a *square wave*—literally squared-off and flat on top (as compared to a rounded sine wave), and containing (odd numbered) harmonics. These harmonics can produce effects similar to those of a higher-frequency sine wave only to a limited extent, because after about the ninth harmonic the power is so weak that the signal is no longer effective at devitalizing pathogens. Nevertheless, changing the waveform from sine to square to obtain harmonics, and also lowering the frequencies by a factor of 10, did enable the units to finally start working the way they were intended.

Garff believes that Marsh and Crane regarded the lower frequencies as Rife's intellectual property and considered

the AZ-58 to be Rife's instrument. He cites, as evidence, a plaque on the front of the device with Rife's name on it. However, during an interview in the 1970s, Comparet stated quite clearly that Rife had expressed displeasure with the AZ-58, and "indignantly denied" that Crane was "still using the Rife principal,"⁶⁰ as the unit had undergone too many radical changes.

We know that the AZ-58 did no harm. But the all-important question is, did it heal? Physician Robert P. Stafford, who spent many hours with the AZ-58 from 1957 to 1962, faithfully recorded its performance. He was pleased that the AZ-58 worked very well for most health conditions. However, it did not substantially help people with cancer. Dr. Stafford wrote, "As yet, we have failed to 'cure' any case of advanced, terminal malignancy. It appears in several instances that we may have impressed the disease favorably, [but only] temporarily."⁶¹

Meanwhile, more legal trouble was brewing. In 1958, the State of California Public Health Department compelled Crane to attend a hearing to discuss the shortcomings of the AZ-58. The unit had been independently tested by four facilities—Palo Alto Detection Lab, Kalbfeld Lab, UCLA Medical Lab, and San Diego Testing Lab—all of which verified that the equipment did not emit harmful radiation. However, this didn't prevent the state from bringing Crane and Marsh to trial in spring 1961 on charges of medical misconduct. Comparet would later comment on the tactics used to entrap the two men:

When anybody is apparently giving the medical monopoly a hard time, they go after him. . . . They [hired] some harmless looking housewives who were . . . fitted with wireless microphones, and down at the end of the block here were the [California] State men in a van with their recording equipment taking it down. . . . I remember one tape: here was Marsh in his own voice, clear as could be, saying, "This instrument will not only cure every known disease, it'll cure some we haven't yet discovered." To be fair to Marsh, John Crane was making the same type of claims, but he just didn't get caught.⁶²

Comparet also described how Crane risked breaking the law to help others. The customers of Crane and Marsh, he said, "were ignorant people. You couldn't simply hand them the instrument and tell them, 'Go home and use it.' They didn't have brains enough. So Crane went there with his instrument and operated the thing himself to make

sure it would be done correctly."⁶³ One customer was a woman whose condition markedly improved "until finally they [probably her doctors] told her she should go to the county hospital and get a blood transfusion. And she came back from that in very much worse shape, and died a week or so later. He [Crane] had to admit on the stand [that] he and Marsh had gone there and operated the instrument to give the treatment, and neither of them had an MD license. . . . That's why John Crane served his time."⁶⁴

As for Royal Rife, now almost 73 years old, he was in no state to endure the stress and indignity of another trial. He secluded himself in Mexico and refused to come to the US as a witness. No notarized medical reports in favor of the frequency instrument—either from physicians or their clients—were allowed at the trial. Rife's own written

testimony, in the form of answers to questions posed by Crane's lawyer, wasn't introduced into the record because, Comparet later explained, Rife (understandably) refused to come to court and testify.

It's worth noting that Crane had previously invited numerous governmental agencies and private organizations to test the AZ-58. Among those he contacted were the United States Department of Health, Education and Welfare; the National Research Council Committee on Growth; The American Cancer Society; The Damon Runyon Fund; Memorial Sloan-Kettering Cancer Institute in New York City; and the International Cancer Clinic. No one expressed interest in testing the device.

Rife had strong feelings about this. "The American Cancer Society," he wrote in the document submitted to (and rejected by) the court, "was interested until they found out that John Crane and I are not medical doctors . . . then they called John Crane from New York and stated that they had decided to cancel the proposed project which would have shown them how to isolate the virus, make it virulent, grow the cancer tumors and how to electronically eliminate the cancer." One can imagine his frustration as he continued:

They spend millions on drugs but nothing on electronics, unless it will supplement drugs like X-ray and radioactive treatments, which put terrible scar tissue and burns inside the body. And then the person has to have a great amount of dope and pain killers to keep the pain down. The drug racketeer makes \$10 billion annually on cancer alone [*this was in the 1950s*], and with this money they have been able to have an unconstitutional law put on the books which stated that people

**To vilify a great man
is the readiest way in
which a little man can
himself attain greatness.**

—Edgar Allan Poe
American writer, poet and critic
(1809–1849)

More Rife History: the John Hubbard Interviews

In 1947, pathology student John Hubbard discovered the *Journal of the Smithsonian Institute* article on Rife's Universal Microscope. Excited, he sent letters to all of the optical companies, asking if they had any information on the microscope. Not one did.

Almost thirty years later, Hubbard—who was now a tenured Professor of Pathology at State University of New York at Buffalo—read Christopher Bird's article on that same Universal Microscope while browsing a magazine rack. Hubbard contacted Bird, who fortuitously had learned the whereabouts of engineer John Crane, Rife's former associate who was still living. Bird was looking for an expert in microscopy and pathology to help him assess the instruments that Crane said were in his possession. So their quests merged: Hubbard and Bird began working together to unearth and examine a Rife microscope (to satisfy Hubbard), as well as a Beam Rays machine (to satisfy Bird). From John Crane, they obtained a list of about a dozen people who were still alive and had known or worked with Rife. They traveled to San Diego, Los Angeles, Chicago, and even England. Over the course of many years, Professor Hubbard conducted most of the interviews. He also recorded them.

In 1976, Hubbard visited the San Diego court records room and obtained microfilm of most of the 1939 Beam Rays trial documents: affidavits, depositions, subpoenas, demurs, court motions. Thanks to his record-keeping and interviews on tape (along with other surviving letters and documents), the history of Royal Rife is more complete.

—adapted from Shawn Montgomery
"Requiem for Royal Rife: The Hubbard Interviews, Introduction," 2006

will only be treated for cancer by medical doctors with X-ray, radioactive treatments, and surgery—creating a drug monopoly.⁶⁵

Except for the few labs that had tested the device solely to make sure it did no harm, no medical society, hospital, clinic or organization ever tested the units on human beings to see if it could heal. The only medical opinion represented at the trial was from a doctor who had been given a unit to test two months previously and decided that it didn't work—even though he openly admitted *in court* that he had never tested or evaluated it! The jury was comprised of people with no medical background, except for the foreman, who was an allopathic doctor opposed to the entire concept of frequency therapy.

The AMA board under the Director of Public Health declared the frequency instrument unsafe, and banned it from the market. Both Marsh and Crane served three years of jail time and were released in 1964, with orders not to associate with one another.

Still, the AZ-58 refused to die. Just before Crane's incarceration, he and Marsh reconstructed the device so it transmitted frequencies via electrodes rather than the more expensive gas-filled glass tube. A common, off-the-shelf audio frequency generator costing around \$200—standard equipment in many labs—was used to produce the frequencies, because it's easier and cheaper to buy a mass-produced item than to build something from individual parts. This new device had no RF carrier. It utilized square waves and frequencies in the hertz range.

John Marsh continued to build pad and ray tube instruments until his death in 1987. His activities

were not as widely publicized as Crane's. Crane sold electrode units after his release from prison. Noted for his tendencies for hyperbole (as well as for being an opportunist), he claimed benefits from this new device that seemed even to surpass results achieved by Rife's original ray. This new machine was touted as successfully treating chronic bladder irritation, cataracts, fungal growths on the hands, growths over the eyes, anal fissures, pyorrhea, arthritis, ulcerated colon, varicose veins, prostate troubles, colitis, back pain, and heart attacks. Crane also wrote a lengthy, creative manual on how to use Rife Therapy with pad devices and the additional elements of polarity, color, and magnetism.

This new pad device birthed a new generation of rifers. However, Crane's units were expensive. An engineer who bought a unit from Crane shortly before Crane died, told me that it was an ordinary audio frequency generator with nothing remarkable about it. Crane had modified it with a new front panel, a power booster, and a few dollars worth of hand-held metal cylinders to use as electrodes. This unit, nicknamed the "Rife-Crane device" or simply the "Crane device," sold for five times its original cost.

Politely put, this was not Rife's technology at its finest, either in design or intent. However, the "Crane devices" provided a valuable function. They helped keep the technology alive. If there was a chance that this technology was valid, then successful versions of it might be reconstructed sometime in the future.

Royal Rife died in 1971. John Marsh died in 1987, and John Crane died in 1995. Fortunately, Rife's technology did not die with them. A new phase of this research was about to begin.

THE CONTINUAL SAGA OF PLEOMORPHISM

Virginia Livingston-Wheeler

In 1947 (one year after Rife's laboratory closed), on the East Coast of the United States, physician Virginia Livingston-Wheeler discovered a bacterium she named *Progenitor cryptocides*, Greek for "hidden killer." This normally harmless pathogen, she stated, was present in humans and animals, but causes cancer when the immune response is not working properly. She also pointed out that immunity is compromised by exposure to chemical toxins, emotional stress, and poor diet.

"A specific class of microorganism apparently belonging to the mycobacterium has been observed and is grown from the cancerous blood and tissues of [human beings] and animals," she wrote. "They [the pathogens] are *filterable and pleomorphic*." The various diseases associated with this family of pathogens included "scleroderma, interstitial myocarditis, . . . fibrosis, pleurisy, pericarditis, rheumatic fever, nephritis, hepatitis and arthritis, *depending on the degree of host resistance, the invasiveness of the specific microorganisms, the strain specificity, and the site of tissue susceptibility*." [emphasis added]⁶⁶

Livingston-Wheeler's findings, notes dermatologist and cancer researcher Alan Cantwell, "angered cancer experts, microbiologists and American Cancer Society spokespersons, all of whom continued to insist the cancer microbe did not exist."⁶⁷ The resistance was active: after the innovative doctor presented her discoveries to the 6th International Congress of Microbiology in Rome in 1953, the New York Academy of Medicine immediately issued a statement discounting her findings. Dr. Cornelius P. Rhoads, head of Memorial Sloan-Kettering Cancer Center, stopped all funding for the Rutgers-Presbyterian Hospital Laboratory where Dr. Livingston-Wheeler worked.

In contrast, the European medical community showed a high level of tolerance and even appreciation. In July 1958, when Livingston-Wheeler spoke at the 1st International Congress of Microbiology and Leukemia in Antwerp, Belgium, she discovered that for many years, European doctors had understood, accepted, and worked with the reality of pleomorphism.

In 1959, Livingston-Wheeler—having moved to San Diego, California, four years before—met her neighbor, Royal Raymond Rife. Livingston-Wheeler arranged for the Institute of Cancer Research in Philadelphia to provide Rife with mice, and for about a year the two worked together. Although they held similar views on pleomorphism, Livingston-Wheeler focused on developing a serum to cure cancer instead of working with Rife's technology. In her San Diego, California clinic, people

were treated with diet, nutritional supplements, and a vaccine prepared from their own diseased tissue. Her treatments were successful overall, but the medical authorities closed her clinic.

Dr. Livingston-Wheeler died in 1990. But before her death, she expanded her research with three other remarkable women. See below.

Eleanor Alexander-Jackson

In her Cornell University lab in Ithaca, New York, microbiologist Eleanor Alexander-Jackson witnessed pleomorphism in the tuberculosis bacillus as she watched it change shape and size. In 1948, Dr. Alexander-Jackson had a meeting with Dr. Livingston-Wheeler. Together, they found a special acid-fast stain that highlighted the microbe so it could be recognized both in a Petri dish culture and inside a cancer tumor.

At the time, the way to differentiate a virus from a bacillus (bacterium) was to pass it through a special filter. Tiny viruses could pass through the filter, whereas the larger bacteria could not. The two researchers found that

Pleomorphism has been taught to medical students for a long time. *Taber's Cyclopedic Medical Dictionary* (first copyright 1940), defines pleomorphism as "1. Property of crystallizing into two or more different forms. 2. Occurrence of more than one form in a life cycle."⁶⁸ A major textbook used by medical students, *Harrison's Principles of Internal Medicine*, states that "*Acinetobacter calcoaceticus* . . . was described by DeBord as *Mima polymorpha* in 1939. It is one of two well-characterized varieties of *Acinetobacter*. . . . Organisms described as *Bacterium anitratum* and B5W are synonymous with *Acinetobacter*. These organisms are pleomorphic, gram-negative, encapsulated, and non-motile. They grow well on ordinary media, forming white, convex, smooth colonies. Diplococcal forms predominate in colonies grown on solid media; rods and filamentous forms are more common in liquid media."⁶⁹

Despite the above, there's a difference between distinguishing a diplococcal form from a rod form of the same microorganism, and the idea that a microorganism can morph into something that is so fundamentally different in size, form, function, and damage potential, that it becomes a completely different organism. Few medical personnel want to believe that a pathogen might exist in the body as a harmless structure until the host's terrain changes it.

An Internet search reveals at least eight heavily documented textbooks on pleomorphism published in German, complete with references and photos.

the acid-fast organisms found in scleroderma, leprosy, tuberculosis, and cancer could change from small forms that could be filtered into large forms that could not! This meant that the viruses morphed into bacteria and the bacteria morphed into viruses. What science had carefully catalogued as separate and discrete pathogens were *the same microbe changing form*. It is these changes in shape and form (and thus function) that cause the different symptoms we call disease.

In 1966, Drs. Livingston-Wheeler and Alexander-Jackson presented a paper at an American Cancer Society seminar in Arizona. When Alexander-Jackson returned to her laboratory at Columbia University in New York City after the seminar, she found that she had been fired from her research position.

Irene Corey Diller

Cellular biologist Irene Corey Diller was an exemplary employee at Philadelphia's Institute for Cancer Research. Famous for discovering and isolating fungus-like microbes in cancer cells, she published "Studies of Fungoid Form Found in Malignancy" in 1953.

Now the research team numbered three. Once she was joined by Livingston-Wheeler and Alexander-Jackson, Diller worked with mice specially bred for a tendency to develop cancer. After injecting healthy mice with cancerous microbes cultured from tumors taken primarily from human breasts, she more than doubled the rate of cancer in the mice. From these mouse cancer tumors, she successfully cultured the same microbe—thus proving that these pathogens were involved in the development of cancer. These experiments were similar to those conducted by Royal Rife. Utilizing Livingston's methods, Diller also grew the microbe from the blood of human beings with cancer.

Florence Seibert

Born in October 1897, chemist Florence Seibert was considered one of the foremost authorities on the chemistry and immunology of the acid-fast bacteria that cause tuberculosis. In the 1920s, Dr. Seibert had devised a method to make intravenous transfusions safe by eliminating contaminating bacteria. She was heavily decorated. In 1938, the National Tuberculosis Association awarded her the Trudeau Medal—the highest prize given for tuberculosis research—for perfecting the skin test for tuberculosis (used worldwide). In 1942, Seibert received the Garvan Medal from the American Chemical

Society. Later in 1990, she was inducted into the National Women's Hall of Fame.

By 1959, Seibert had retired. However, she was so impressed with Diller's research that she began working again in the early 1960s to help prove that bacteria cause cancer. Dr. Alan Cantwell, who befriended all four women and considers them mentors for his own research, reports:

Experiments conducted by Seibert and her research team were able to isolate bacteria from every piece of tumor and every acute leukemic blood they studied, proving these acid-fast and TB-like cancer microbes were not laboratory contaminants.

In her autobiography, *Pebbles on the Hill of a Scientist*, published privately in 1968, she wrote: "One of the most interesting properties of these bacteria is their great pleomorphism. For example, they readily change their shape from round cocci, to elongated rods, and even to thread-like filaments, depending upon what medium they grow on and how long they grow. This may be one of the reasons why they have been overlooked or considered to be heterogeneous [various, dissimilar] contaminants. . . . Even more interesting . . . these bacteria have a filterable form in their life cycle . . . they can become so small that they pass through bacterial filters which hold back bacteria."⁷⁰

Seibert's research, like the experiments of others before her, clearly pointed to the ambiguous boundaries between presumed discrete pathogens. "Seibert's provocative papers, some emanating from the prestigious Annals of the New York Academy of Sciences, should have caused a stir," Cantwell comments.

But with these four women slowly closing in on the infectious cause of cancer, funds from previous supporters (such as the American Cancer Society) suddenly dried up. . . . After [Dr. Seibert's] death, . . . the obituaries mentioned her contributions to the safety of intravenous fluids and her great achievement with the TB skin test, but not a word was written about her cancer microbe research, to which she devoted the last 30 years of her life.⁷¹

When Dr. Seibert died in 1991, she was bewildered by the medical industry's lack of interest in finding the cure for cancer. "It is very difficult to understand," she

**Mankind has so far
survived all major
catastrophes. It
will also survive
modern medicine.**

—Aldous Huxley
English satirist, philosopher,
pacifist, critic and author
(1894–1963)

wrote, “the lack of interest, instead of great enthusiasm, that should follow such results.”⁷² Difficult, indeed! One author reports that in 1985, the Sloan-Kettering Cancer Institute found “the Rife-Livingston-etc. organism (virus) in all blood cultures of cancer patients. They conclude[d] that the organism [came] from outside contamination and bur[ie]d the report.”⁷³

Lida Mattman

In 1997, American biology professor and microbiologist Lida Mattman was nominated for a Nobel Prize for her work on stealth pathogens. With 35 years of experience working in the fields of immunology, microbiology, bacteriology, virology, and pathology at numerous schools and institutions, Mattman was well qualified. Her specialty was *Borrelia burgdorferi*, a pathogen that causes Lyme disease—and a pathogen that she proved is pleomorphic. In her definitive textbook, *Cell Wall Deficient Forms: Stealth Pathogens*, Mattman described how *Borrelia burgdorferi* can survive and spread without having a cell wall. In its cell-wall-deficient state, Lyme is very dangerous because it can’t be detected by the body, by almost all pharmaceutical antibiotics, and even by a fair number of natural herbs and essential oils. Nevertheless, Dr. Mattman was able to culture the Lyme bacterium from its cell-wall-deficient form and grow it into spirochetes in a laboratory.

The Lyme spirochete’s ability to morph into other forms is not quite like the other examples of pleomorphism because the bacterium is still recognized as *Borrelia* no matter what form it assumes. Nevertheless, Dr. Mattman’s discoveries have helped countless people who suffer from Lyme because now they know how to approach eradicating the pathogen. Her findings may also help doctors recognize the incredible variability of microorganisms in general.

Ludwik Gross

Ludwik Gross was an oncologist and virologist who repeatedly stated that many different types of cancers were caused by viruses. His book, *Oncogenic Viruses*, was published in 1970. In 1974, he noted won an Albert and Mary Lasker Foundation prize for his discovery that leukemia can be transmitted by a virus.

Despite Dr. Gross’s generally favorable reputation, circumstances obliged him to write, in a 1978 issue of the journal *Cancer Research*, that “there was considerable reluctance and often even frank hostility on the part of leading investigators to accept, as facts, these new and fundamental observations.”⁷⁴ As Gross later explained, “Research projects and experimental approaches radically

different from such accepted concepts or theories were not only frowned upon, but often resulted in the refusal of the necessary financial and logistical support needed by the investigator to carry out his proposed studies.”⁷⁵ His obituary in *The New York Times* (he died in July 1999) stated that “for the half-century before Dr. Gross’s discovery, scientists had largely ignored the role of viruses in cancer even though, beginning in 1908, researchers had suggested a viral cause by transmitting leukemia and sarcomas in chickens.”⁷⁶

Clearly, scientists all over the globe have known for over a century that pleomorphism plays a role in cancer and other illnesses. If you change the terrain, you change the illness, even controlling whether it occurs at all. This is a simple concept. Yet for some, it’s difficult to accept—so difficult, that they don’t want others to know about it.

Gaston Naessens

Born in France in 1924, microbiologist Gaston Naessens later moved to Quebec, Canada, where he designed an unusual and powerful microscope called a Somatoscope. The instrument uses polarized light from an ultraviolet source and magnifies live specimens up to 30,000 diameters their size instead of the usual 2,500 diameters. As did his predecessors, Naessens saw tiny entities in the blood, which he called *somatids*. By now, you can guess the rest of the story. Naessens reported seeing 16 somatid cycles, the first three of which are normal. If the system becomes unbalanced, the somatids evolve into any of 13 other stages of bacterial, viral, or fungal forms. Naessens linked these pathogenic somatid forms to a host of degenerative diseases, including cancer, rheumatoid arthritis, AIDS, lupus, and Multiple Sclerosis. He has a history of successfully predicting which disease condition will develop according to the microorganisms that are most prevalent in the blood.

To combat cancer, Naessens formulated a compound called “trimethylbicyclonitramineoheptane chloride,” which was shortened to simply “714X.” Still used today, it contains camphor (derived from the shrub *Cinnamomum camphora*), ammonium chloride, ammonium nitrate, sodium chloride, ethanol, and water. Every day, the 714X is injected into a lymph node in the groin. One round of treatment consists of 21 daily injections. Three series are the minimum amount required, and most people need to receive longer-term treatment. The 714X injections mobilize the immune cells and unclog the lymph system, so it’s the body that kills the cancerous tissue.

Naessens’s effective injections are available in Canada, Mexico, and Western Europe. However, in the United States, the FDA has banned all sales of 714X.

Kurt Olbrich and Bernhard Muschlien

In 1972, German engineer Kurt Olbrich left a career as one of the top research analysts in the plastics industry and formed the Institute for Interdisciplinary Basic Research. At the institute, Mr. Olbrich provided analysis services for various industries and research organizations—using, among other tools, a microscope. But the scientist's research was hindered. It was the same old story: existing light microscopes could not provide the resolution, depth of field, and image quality he needed for his work. So in 1976, after extensive research, Olbrich discovered a new way of building microscopes. By using a unique mathematical approach to optics, he avoided the constraints of existing optical theory and built a microscope with a resolution better than 100 nanometers, and with unparalleled depth of field, full contour sharpness, and true vivid colors.

Like Rife's Universal Microscope, Olbrich's invention allowed long-term viewing of microorganisms in their living natural state. There was never a need to kill the specimen, stain it, or use oil immersion. Olbrich's equipment, which worked on different principles than Rife's microscope, had an even greater resolution. It was also very easy to operate. Later, Olbrich created a more affordable series of microscopes with the same features. He named the initial microscope, as well as its successors, the *Ergonom*. In 2002, the first instrument designed for sale was marketed by Grayfield Optical Inc., a company with bases in the United States and Europe.

Today, at the Institute for Interdisciplinary Basic Research, Kurt Olbrich continues to do research and analysis—this time, with the benefits of his own instrument. The *Ergonom* has been used to conduct a detailed analysis of Legionnaires' disease, leading to several published articles. German natural health practitioner Bernhard Muschlien, in conjunction with Olbrich, has utilized the *Ergonom* microscope to provide foundational material for his published articles on pleomorphism and also for his film, "Symbiosis or Parasitism." (For company contact information, including access to the articles and film, see Appendix A.)

As might be expected, it was inevitable that the *Ergonom* would be used for cancer research. Olbrich has extensive experience observing the blood of people with various stages of cancer as well as those whose

blood indicates a precancerous condition. Some of the images and material in the widely read German medical textbook, *Pleomorphismus* (published by Haug Verlag), are based on Olbrich's observations through the *Ergonom*. In his series of drawings, Olbrich has standardized the measurements (in nanometers) of morphing biological life forms that live in the blood. The scientist describes the oncogenous blood parasite as a *cancer virus*—a term he chose because it appears to be a virus-like organism, even though most of the forms he has observed are fungal. While Olbrich's observations might appear radical to an uninformed American audience, the majority of Germans—both practitioners and laypersons—have known about pleomorphism for a long time and welcome his research. Olbrich's drawings, in the Insert called "The Olbrich Sanguinogramm: Development Stages of *Mucor racemosus*," are on pages 236–239.

Peter Walker, a Europe-based Rife researcher and personal friend of Olbrich, points out some little-known facts about the way viruses appear under an electron microscope. His account provides an excellent reason, when assessing the blood, to use a microscope that does not kill its specimens.

Under an electron microscope, viruses not only die, they also shrivel up like a fist—so what you see is not what viruses normally look like. For example, textbooks teach that the HIV virus is about 30 to 40 nanometers, because that is the size as seen under the electron microscope. But in reality, such viruses can grow to nearly 300 nanometers when seen in their living state—a fact established during a trial in Berlin using the *Ergonom* microscopes.⁷⁷

Royal Rife's last known existing, working microscope is being kept in a safe, undisclosed location, hidden away from people who might want to steal it. This is good for the microscope, but not so good for scientists who would benefit from using it. However, thanks to Mr. Olbrich's perseverance and inventiveness, professionals can now conduct serious research in an unlimited number of fields: medicine, biology, biochemistry, geology, electronics, archeology, electromedicine. The possibilities are unlimited. We finally have the optics needed to not only corroborate the research of Royal Rife and his successors, but to finish what Rife began—and even surpass him.

**It is always a much easier task
to educate uneducated people
than to re-educate the mis-educated.**

—Herbert M. Shelton, ND
American naturopathic physician,
pacifist, health educator,
and author of more than forty books,
from *Getting Well* (1942, reprinted in 1993)
(1895–1985)

IMPLICATIONS FOR HEALING

Now that we have the microscope technology to confirm the findings of Royal Rife and others, groundbreaking experiments can be taken to a new level. Dr. Alan Cantwell—who studied with Dr. Mattman as well as doctors Livingston-Wheeler, Alexander-Jackson and Diller, and did not even have access to the Ergonom when he did his experiments—flatly states:

From my work at the VA [hospital] with Eugenia [Craggs, a microbiologist specializing in tuberculosis], I learned one important thing: microbes change form. Sometimes they appear one way, sometimes another. And they could fool the experts. The appearance of the microbe depended on what it was fed in the laboratory. In the textbooks of microbiology the classification of organisms was simple and straightforward. But in reality, it was not that way at all.⁷⁸

When dealing with a live person or animal, the appearance of a microbe depends on the terrain that is the inside of the body. And that terrain depends on what the host has eaten. Changing the terrain not only can change the characteristics of a harmful microorganism, but in most cases determines whether that pathogen will even exist.

I began this chapter by describing two opposing concepts of illness and disease that did or did not subscribe to the germ theory. You have seen how unscientific ideas become embedded in public consciousness to such a degree that they eventually are cited as “proof,” despite their lack of scientific validity and their defiance of common sense. As long as the medical-pharmaceutical industry continues to insist on—and impose—its own version of what illness, wellness and medicine are all about, the advancement of holistic protocols will be ridiculed, suspended, and even forbidden. A true revolution in health care can only occur when enough people are willing to “think outside the box.” This means that instead of taking the latest toxic drug, and more toxic drugs, people will embrace the need to change what they eat and drink as well as how they conduct their lives. They will take responsibility to heal themselves, instead of giving away discernment and self-reliance to an outside authority.

Since the first edition of this book was published, I have received thousands of phone calls, letters, and emails from people all over the world. In most cases, they were not only willing, but eager to take responsibility for their own healing. Quite a number of correspondents were doctors

and scientists, ready to act as healing facilitators and investigators rather than as unquestioned and inflexible authority figures.

The new paradigm of medicine can no longer be concealed or suppressed. People are waking up and are hungry to learn the truth. Not only is the lay public becoming more discriminating in their choices of healing modalities, but they are also actively seeking out many types of electromedical modalities, including the technology that Rife created.

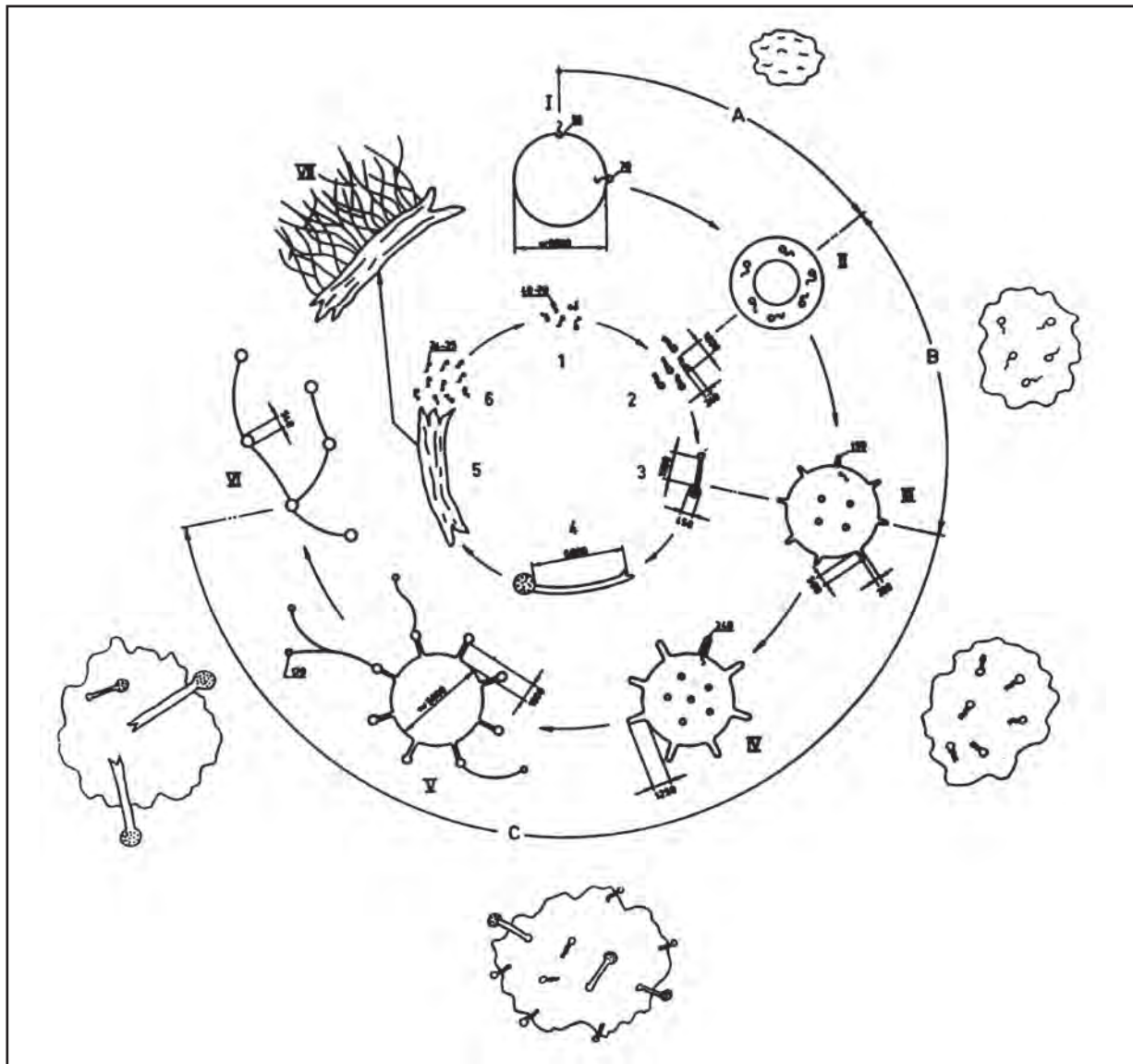
Hundreds of different frequency devices are being used worldwide for therapy. Not only are companies producing electromedical devices, but individual experimenters are building their own. Although Royal Raymond Rife was the only person who ever constructed a real “rife machine,” this doesn’t mean that modern units don’t work. They do. However, with the rapid increase of infectious and degenerative diseases, we need them to work even better, and faster.

In Europe and other parts of the world, which have a relatively enlightened understanding of medicine and more legal tolerance, frequency therapy is being used openly by many doctors and clinics. In North America, although laypersons and even doctors are (often secretly) using frequency devices, the manufacturers and sellers of the equipment are not allowed to make medical claims for them. Likewise, most media—at least American mainstream newspapers, magazines and television—is silent about this technology. This makes it difficult for the average person to obtain information on Rife Therapy, unless the seeker is very determined or has Internet access.

Happily, this situation is changing. The general public is more aware of Royal Rife now than they were even five years ago. Also, more people than ever are becoming interested in alternative healing methods—alternative, that is, to the allopathic medicines that have been pushed onto us like any other consumer item. The more we take responsibility to educate ourselves, the less satisfied we are likely to be with the status quo. This is as it should be.

Now that you know how promising Rife’s sessions were, you probably can’t wait to begin rifeing yourself. Chapter 5 organizes diseases and degenerative conditions, along with their frequencies, in a user-friendly manner. But before we get there, it’s important to know what to do when all those pathogens start to die in your system. Chapter 3 discusses many complementary and detoxification modalities, all compatible with Rife Therapy. Whether used with a frequency unit or without one, these protocols will help your overall healing be faster, easier, and more effective.

The Olbrich Sanguinogramm: Development Stages of *Mucor racemosus*

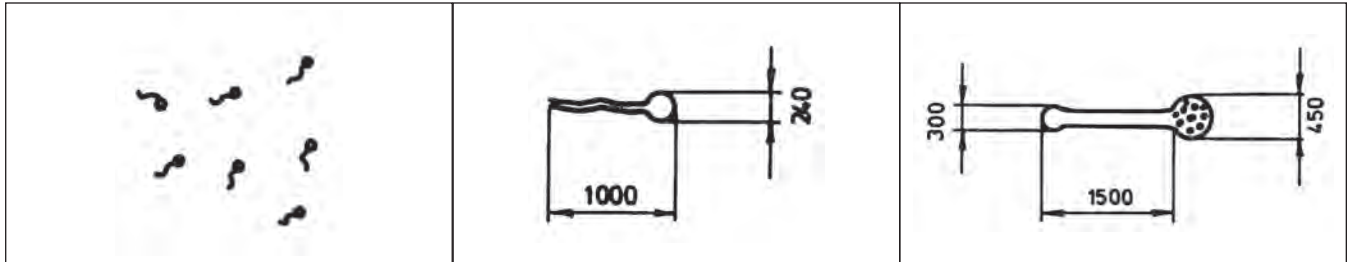


Kurt Olbrich has extensive experience investigating and cataloguing pleomorphic forms found in the blood of people who are precancerous and who have full-blown cancer. The above drawing measures morphological phenomena in nanometer (nm) units. Olbrich calls the microbe a "cancer virus," though most forms are fungal.

Inner circle: Isolated cancer viruses.

Outer circle: Reaction of phagocytes. **A.** Normal conditions. **B.** Enlargement of phagocytes. **C.** First, attempts by the phagocytes to remove the cancer virus. After increasing in size, the viruses are released into the plasma and can then attack further cells (blood/tissue).

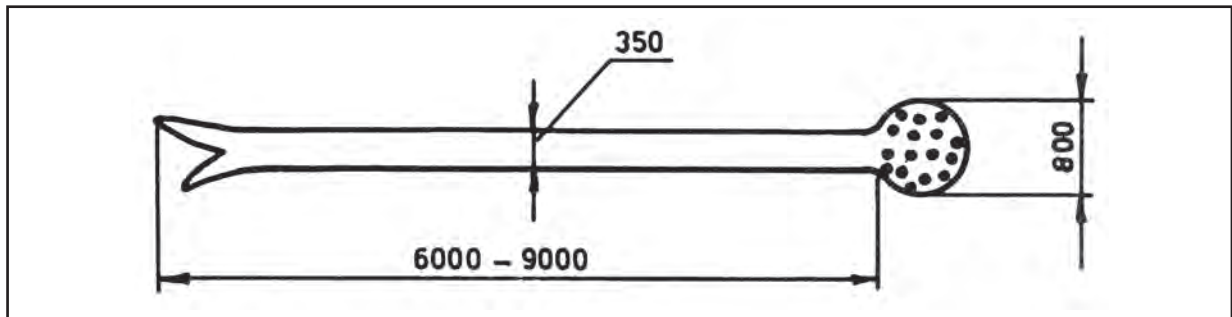
Construction of the Sanguinogramm is possible only by recording images of living phenomena in blood in real time. This is done through the Olbrich's Grayfield contrast microscope, the Ergonom 400. The Ergonom 400 uses normal white light, magnifying at least 25000:1 with corresponding true resolution capacity. Other equipment used includes a high-resolution video camera of broadcast quality (resolution of at least 600 lines), and a monitor with a horizontal screen size of at least 40 cm (pixel resolution better than 0.3mm). Use of such equipment allows for measurable freeze-frame images from moving objects to be created in true color without any significant electronic falsification.

Cancer Pathogens that can be seen and measured: Olbrich's original illustrations.

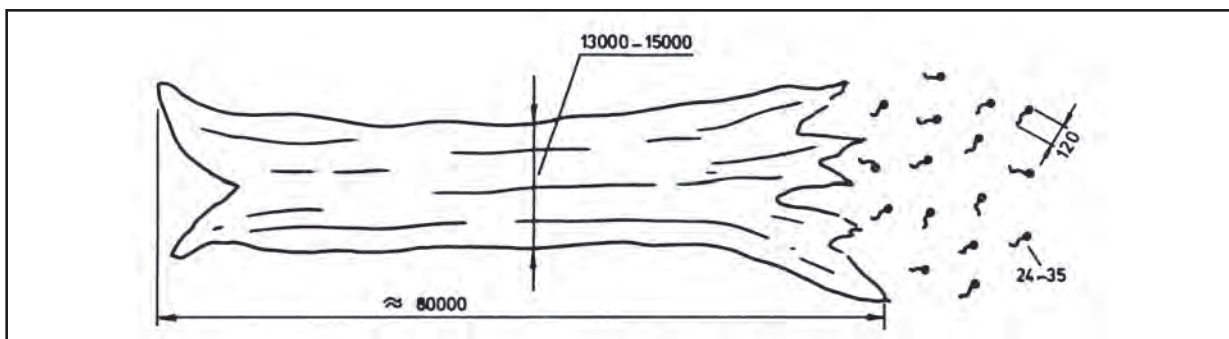
Potential cancer viruses as found in all blood. Their heads measure from 40–70 nm, and they have a simple flagellum.

The average head measurement is now about 240 nm. The complete length, including the doubled flagella, is about 1000 nm. This form corresponds to a weakened immune function, as when one is battling a severe case of influenza. After the person recovers, the original pleomorphic state automatically reestablishes itself, and viruses with twin flagella die.

This phase (called the "B" phase by Kurt Olbrich) begins when one's immunity is weakened over a longer period of time. The head now has an approximate diameter of 450 nm. The total length, without the head, is about 1500 nm. A club shaped formation is created. In the head, new infectious particles can already be detected.

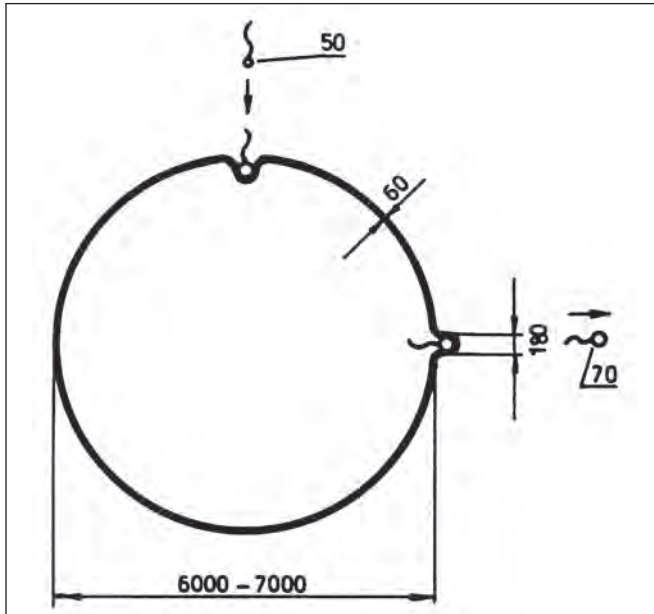


Here, a total length of about 6000 nm has been attained, the head measuring about 1000 to 1500 nm. The development of new viruses can be clearly seen. The end is jagged, probably to more easily attach to nerve surfaces and thus absorb more nutrition than what is available in the blood serum.

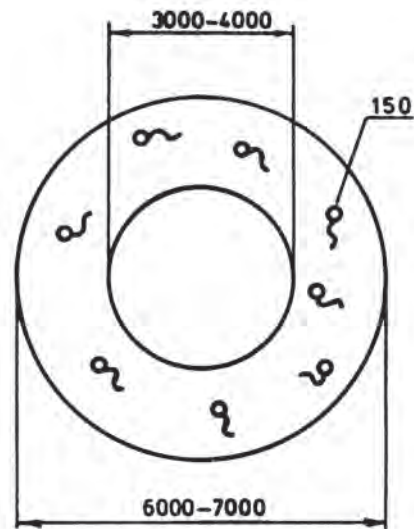


The formations are developing further. Once a total length of about 10 μm has been reached, the circular head formation explodes and young viruses emerge. The head diameter is about 24 to 35 nm and the structure possesses a simple flagellum. Now the cycle is complete.

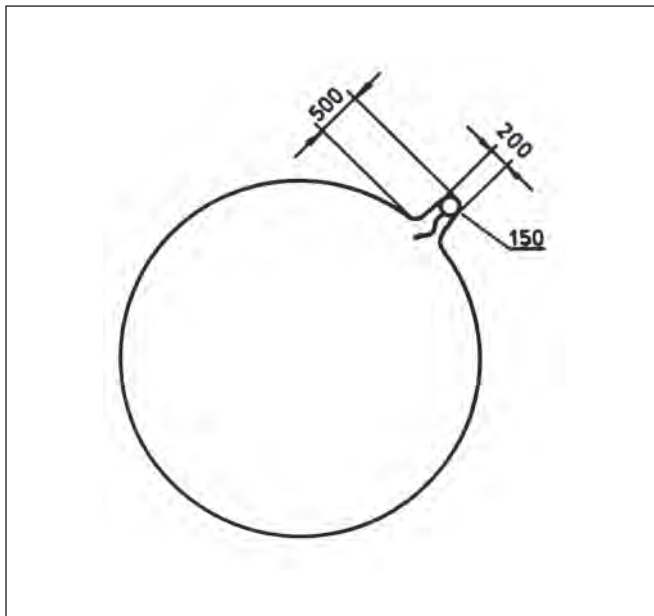
Erythrocytes are attacked and become nutrient food for the pathogens.



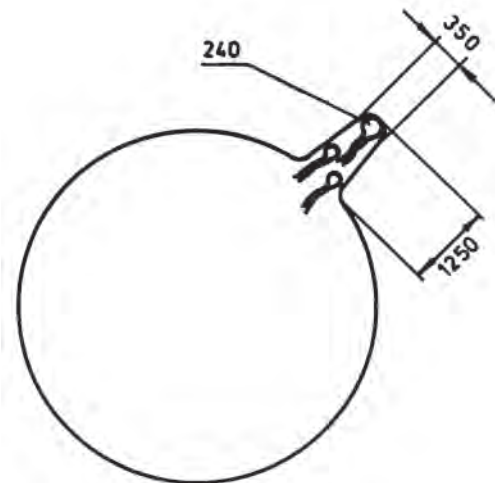
Here the erythrocytes (red blood cells) are depicted as spheres, with an exterior measurement of about 6000 nm. The cancer viruses, with a head measurement of up to 50 nm, penetrate the surface of the erythrocyte membrane and emerge again with a head measurement of up to 70 nm.



The larger spheres are blood cells containing cancer viruses, whose head measurements are over 90 nm. A flagellum is present, although it cannot be determined if the tail is single or double at this stage.

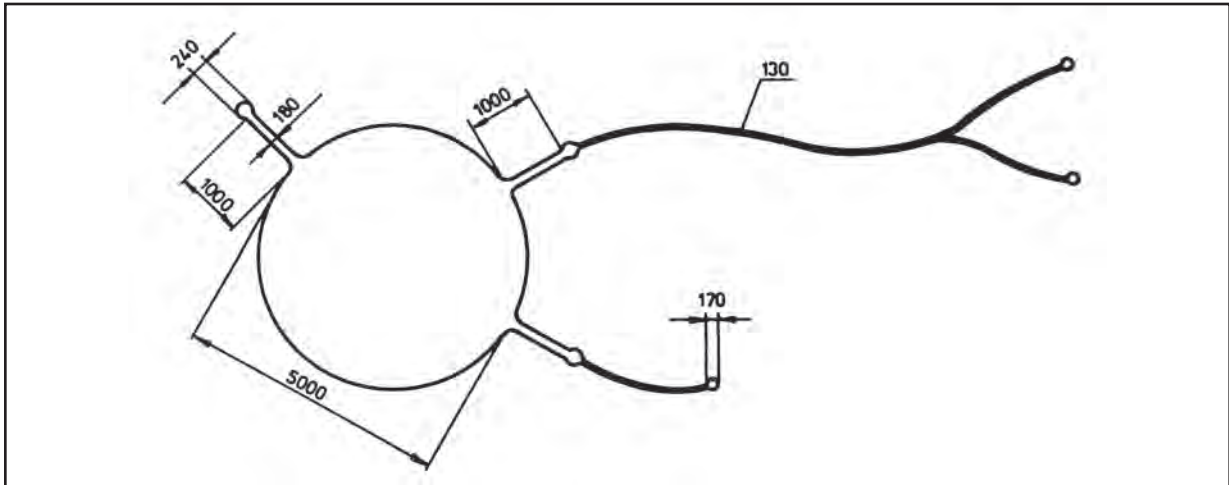


Here, the viruses try to pass from the inside to the surface of the membrane. At this stage, the head size is about 150 nm, the tube-like exit has a diameter of about 200 nm and a length of about 500 nm.

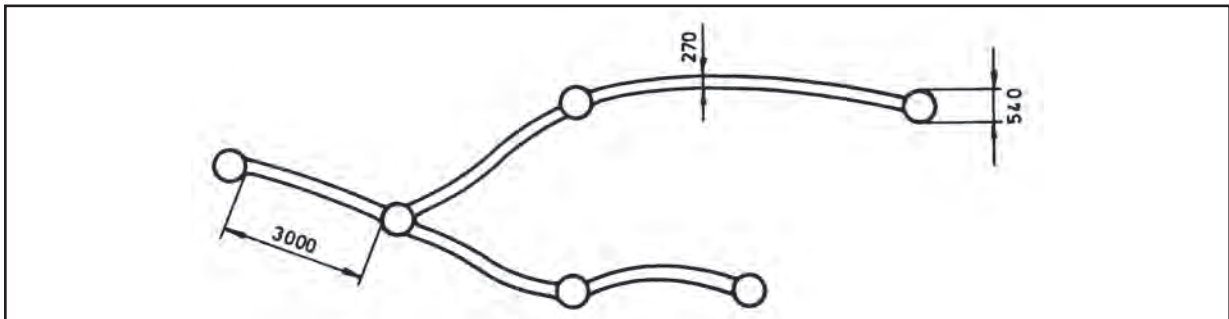


The development continues. It is unclear whether or not the viruses have developed into spores. The diameter of each virus head is about 240 nm, and the length of the tube-like exit is about 1250 nm.

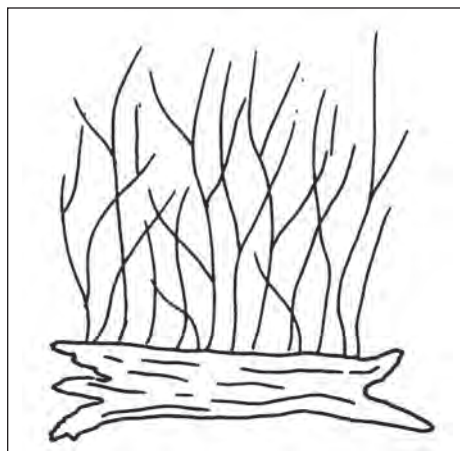
Cancer Parasites grow into fungal mycelia.



Here, the diameter of the erythrocyte is only about 5000 nm, whereas the tube-like tendrils emerging from the sphere are still about 1000 to 1250 nm. Pronounced ball-shaped formations are now developing at the ends.



The fungi threads separate from the erythrocytes. The ball-shaped formations have a diameter of about 540 nm.



From the shell of structure number 5 (see first, circular diagram of this series), fungal threads are now formed. This is most likely the stage where the metastases enter the blood.



ENDNOTES

Chapter 2

THE HISTORY OF PLEOMORPHISM
AND THE INVENTIONS OF ROYAL RAYMOND RIFE

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Until a man duplicates a blade of grass, nature can laugh at his so-called scientific knowledge. Remedies from chemicals will never stand in favorable comparison with the products of nature, the living cell of a plant, the final result of the rays of the sun, the mother of all life.

—THOMAS ALVA EDISON, AMERICAN INVENTOR (1847–1931)



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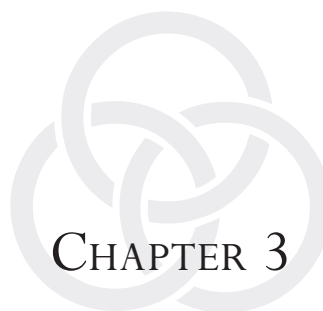
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Healthy Living and Complementary Therapies

INTRODUCTION

You're sick. And you're sick and tired of being sick. Maybe you've been chronically ill, with debilitating symptoms. Perhaps your symptoms are merely inconvenient, causing minor discomfort. Or, your condition may be life-threatening. Regardless of your situation, though, you want to get better, now!

Desperate, you borrow or buy a frequency device and begin rife sessions, determined to kill or disable the pathogens that are making you sick. But halfway through the first session (or maybe just after it), instead of feeling better, you feel worse. You're achy and nauseated, dizzy and disoriented. Or you develop a headache and sore throat, as though you're catching the flu. Perhaps you have muscle and joint pain, bloating and cramps, skin eruptions. Or you feel fatigued, unable to concentrate. You notice that your urine has turned a bright yellow (unconnected to the golden color it sometimes turns when you take more vitamin supplements than you need). Regardless of your response, you wonder: *Why do I feel so rotten?*

These responses are normal. The technology is simply doing the job for which it was created: the destruction of dangerous microbes.

Pathogens lead busy lives. They steal your nutrients, appropriate your cells, and excrete waste into your bloodstream. They also reproduce, ensuring that more of their nasty little selves will soon emerge to commit the same abuse. After the pathogens are rendered less active

(or in some cases made to shatter) by rifting, garbage is everywhere. The corpses of these harmful critters, along with the toxins they spew, are clogging your bloodstream. The debris floods your tissues and joints, impeding lymph drainage. Junk you never knew existed seeps through the blood-brain barrier, impairing your ability to think, feel, and move. Your immune cells engulf the waste as fast as they can (although it doesn't feel fast enough to you). Once the immune cells have consumed their fill of rubbish and are no longer functional, they'll have to be eliminated.

You'll need all the help you can get to excrete the toxic mess resulting from the rifting. And make no mistake about it: Once you find frequencies that match what ails you, there will be plenty to clean up.

Often, the only help you will need to relieve (or eliminate altogether) the symptoms from pathogenic die-off is to drink more water. More water in the body decreases the ratio of microbial toxins to bodily fluids. If you don't drink, you'll become poisoned from the waste. If you're unwilling to drink more water, I urge you not to rife at all, because otherwise you can make your condition worse. The kind of water to drink, and how much, will be discussed in the next section.

But what if you don't feel any of the above-mentioned symptoms? Does that mean the sessions aren't working? Not necessarily. If there are enough minerals in your system, you won't experience many (or any) symptoms. The detox (also called *Herxheimer*) response is discussed in detail in Chapter 4.

Even if you don't experience die-off symptoms from rifting, you will benefit by using one or more of the complementary modality discussed in this chapter. Some of these modalities (dietary protocols, herbs, sunlight, exercise, bodywork), focus primarily on strengthening the body and building tissue. Other modalities (color therapy, electrolytically isolated/colloidal silver, ozone), both restore cells and tissues and eliminate pathogens. Still other protocols (sauna therapy, poultices, homeopathy somewhat, and again the multifaceted ozone), focus more on detoxification, although there's an overlap with other functions.

Detoxification is also known as "cleansing" for good reason. It eliminates debris, related to illness or stress, that—if not eliminated—can toxify or poison the body. Excessive debris encourages the proliferation of pathogens and leads to cellular degradation, and ultimately degenerative conditions. Don't underestimate the importance of detoxification; it plays a vital role in remaining healthy. It's like clearing old dead leaves from a stream to allow the water to flow freely again.

I have always preferred to rely on myself as much as possible for my own health care. Plus, I like to use therapies that are reasonably priced. Therefore, I almost exclusively present inexpensive, effective protocols that can be self-administered. Also, the information and protocols in this chapter are generally under-represented in, or sometimes entirely absent from, not only mainstream but also holistic circles. These carefully selected overviews are designed to inspire you to continue researching on your own.

What if you don't have access to a rife machine? Or you're not sure that rifting is for you? You will still want to read this chapter. Incorporating one or more of these modalities into your wellness routine could be just what you need. I urge you to consider the dietary suggestions, along with at least some of the other protocols in these pages. You may be surprised to discover that most of the therapies are easier to implement than you think—and that they address your situation in ways you might never have considered.

If you have a stubborn or serious medical problem, it's always wise to consult someone knowledgeable. However, as most allopathically trained medical doctors lack the training, open-mindedness, or inclination and time to investigate, administer or counsel about these therapies, I suggest that you see someone skilled in holistic approaches.

WATER

Water's Unique Properties

Water is much more than something we gulp to wet our throats. Like the oxygen we breathe, it's essential to life. The body contains an amazingly high amount of water. According to the *Nutrition Almanac*, in a normally hydrated adult the blood contains 83%, the kidneys 82%, muscles 75%, the brain 74%, the liver 69%, and bones a surprisingly high 22%. All of our vital functions require water. Susan Kleiner, author of "Water: An Essential But Overlooked Nutrient," explains:

Fluids fill virtually every space in cells and between them. Water molecules not only fill space, but they also help form the structures of macromolecules such as proteins and glycogen. As the primary fluid in the body, water serves as a solvent for

minerals, vitamins, amino acids, glucose, and many other nutrients. Water also plays a key role in the digestion, absorption, transportation, and use of nutrients. Water is the medium for the safe elimination of toxins and waste products and whole-body thermoregulation is critically dependent on it. From energy production to joint lubrication to

reproduction, there is no system in the body that does not depend on water.¹

My own path towards wellness has been a long and dynamic one. It's taught me that healing from the inside out takes time, and there can be great value in various sources of guidance.

—Carre Otis, American model and actress, (born September 28, 1968)

No wonder people can survive for about a month without food, but would die in several days in even a mild climate without water!

Water has another unique property. It's an ideal *universal solvent*, due to its ability to dissolve *solutes*, or whatever is dissolved in it, without undergoing a chemical change itself. In its entirety, a water molecule has a neutral charge. However, the tetrahedron-shaped molecule is positively charged on one end and negatively charged on the other. This enables water to pull apart other molecules and reduce (dissolve) them into their basic elemental forms. For instance, with table salt (sodium chloride), the water that surrounds it acts like billions of tiny magnets to pull apart the compound mineral and reduce it to its original sodium (Na⁺) and chloride (Cl⁻) forms.

A water molecule consists of the elements hydrogen (H) and oxygen (O). Separately, they exist as gases. Together, they create a liquid when two atoms of hydrogen are combined with one atom of oxygen (H₂O).

Water Sources and Treatments

The source of the water that we drink does not always indicate its purity or quality. Our drinking water supply is usually from among the following:

- ◆ *Tap Water / Municipal Water Supply.* Municipal water usually comes from a reservoir (artificial lake specifically created to supply water to towns and cities). Reservoirs are fed by rain, and occasionally by ground or spring water. The town or city supplying the water filters the water (which is beneficial), but then adds dangerous chemicals to it. The amounts and kinds of chemicals are determined by the local government.
- ◆ *Spring / Well.* This comes directly from the ground near your house, through pipes, and into your faucet. If the well supplies a certain number of dwellings, by law the water must be periodically tested, and in some cases treated for contamination.
- ◆ *Carbonated.* The water can come from any source. It may or may not already contain naturally-occurring carbonation. The water is filtered or distilled, infused with carbon dioxide—even if it's already naturally carbonated—and then bottled.
- ◆ *Filtered.* The filtration is usually done on-site where the water will be used (private home or office). It can be done with activated charcoal, reverse osmosis, ultraviolet, ozone, a combination of these, or another system supplied by the consumer. The source of the water can be a municipal water supply, spring, or well.
- ◆ *Distilled.* The water (which can be from any source) is boiled, evaporated into steam in a chamber, and then condensed and collected in another chamber. Distilled water can either be made with a home distiller, or commercially bought in plastic containers. The source of the water can be a municipal water supply, spring, or well.

The Importance of Decontamination

An alarmingly high amount of our drinking water is contaminated with industrial waste, sewage, pesticides, detergents, and even drugs (as discussed in Chapter 1). Lawsuits against industry are becoming increasingly common, as more and more manufacturing plants pollute lakes and rivers with toxic chemicals. Runoff from pesticides, herbicides, and manure used on factory farms seeps into the groundwater. Some areas still don't have adequate treatment facilities, and the sewage gets into our groundwater as well.

For these reasons, virtually every holistic practitioner and even some allopathic doctors discourage drinking water directly from the tap. Even if the original source is pure, after the water reaches the municipal water supply it's treated with dangerous chemical disinfectants such as chlorine (used to eliminate pathogens) and fluoride. These practices are ill-advised, because for relatively little cost, safe ozone could be used instead. Many countries around the world use ozone to purify not only drinking water, but also swimming pools and hot tubs (discussed later in this chapter in the section, **Oxygen Therapies**).

Tap water is also problematic because it can pick up rust and other dangerous metals (oxidized or not) from the pipes that carry it. In some areas of the United States, I have actually seen foam spewing from the faucet. (I recall that the water in Philadelphia, Pennsylvania was particularly shocking, like a bubble bath.) Was this due to detergent-like chemicals added to "improve" the water, or to other contaminants? Sometimes it's hard to tell. Most municipal tap water in this country is noxious, and the awful taste proves it. Many people who aren't picky about what they eat still filter their water because it tastes so bad.

What type of decontamination process is best? Generally, any water (from whatever source) that's filtered to eliminate toxic metals, chemicals, particulate matter and harmful microorganisms, is safe to drink. This eliminates most municipal tap water as a good choice. What about carbonated beverages (soda water and seltzer)? Those tiny little bubbles are created when carbon dioxide (CO₂) is forced into water at a high pressure. And in nature, sparkling water is sometimes created when decaying vegetation releases its CO₂ into groundwater. But sparkling drinks, although made with filtered water, are not always a wise choice. Whether the carbonation is manufactured, is from a naturally bubbling spring, or (as in some bottled water products) is a combination of the two, when CO₂ combines with water it makes it acidic. Carbon dioxide is needed in the lungs to regulate the amount of oxygen absorbed by the body (too much oxygen in the system can be as dangerous as too little)—but when it's in the stomach, the gas can impede digestion.

Our choices, then, are mainly pure spring, filtered, and distilled water. It makes sense that any water—unless regularly tested for contaminants and deemed safe—should be adequately filtered, whether it comes from a municipal water supply, well, or spring. Who would argue against eliminating contaminants? But are there any advantages to imbibing clean spring water? And what about distilled? Let us continue.

Living Water: Water's Fourth Phase

We have always learned that water has three states: liquid, solid (ice), and vapor (in various stages of evaporation such as fog or steam). However, scientist Gerald Pollack recently discovered that water has a fourth phase, what he calls *exclusion zone*, or *EZ* water. The anomalies that water displays under ordinary circumstances—for instance, there's no single temperature at which it freezes or boils, and it clusters together in particular ways depending on what it touches—led Pollack to his experiments and proofs.

EZ water is best described as a *liquid crystal*. This liquid-crystalline water has a unique ability: it stores energy, a virtually unlimited supply of electrons, in a manner very similar to that of a battery. All EZ water possesses a negative charge. The source of EZ water's energy is the sun, whose various electromagnetic wavelengths—visible light, ultraviolet and especially infrared (most powerful at about 270 nanometers)—imparts that energy, even in darkness. EZ water builds on any hydrophilic (water-loving) surface, including in a living body. The flow of EZ water is driven by protons. (This has enormous implications for understanding the pumping activity of the cardiovascular system.)

EZ water is *living*, alkaline water. It's not H_2O , which Pollack calls *bulk* water—but H_3O , which is structured and organized. Not coincidentally, the many healing waters of the Earth contain living water. They include India's river Ganges, the Lourdes in France, and Hunza glacial waters in Pakistan. We create living water in our bodies when we use far infrared saunas, LEDs and lasers, and lie in the sun. We also create living water in our bodies when we expose "regular" bulk water to these radiant energies, transform it into EZ water, and drink it.

This implications of this liquid-crystalline fourth phase water are truly profound.

For more information, read The Fourth Phase of Water.

The Relationship of Minerals to Water

To answer the questions asked on the previous page, I must redirect the discussion to the chemistry of minerals. All water (except for artificially created distilled water) contains minerals. So, the function and properties of water are intertwined with its mineral content. Please bear with me if I appear to digress too far from the topic; you will see how everything fits together by the end of this section.

Minerals rarely exist as single elements. They are usually *compounds*, combined with another element or elements—sometimes other solids, sometimes oxygen, sometimes water, and sometimes a combination of these.

Even if a mineral is referred to by its common (elemental) name that suggests the presence of only one element, there is always something to which it is bound. Calcium might be calcium chloride; magnesium, magnesium oxide; potassium, potassium iodide; and so on. Sodium is commonly bound to chloride. Chlorine is a gas, but it becomes the solid chloride when it's combined with sodium, forming common table salt.

Many people assume that no matter where a mineral comes from, it will nourish them. But that isn't true. Minerals are not always in a form that humans can assimilate. And if we cannot assimilate them, those minerals can become contaminants.

Heavy Metals

There are two kinds of minerals that humans cannot utilize. The first are commonly called *heavy metals* or *toxic metals*. Heavy metals are not nutrients. Poisonous to the body, they should never be ingested regardless of their form. For the purposes of this discussion, aluminum, cadmium, lead and mercury are commonly regarded as heavy metals.

Much of our drinking water contains heavy metals. These heavy metals accumulate in the system, clogging whatever tissues they settle in: joints, blood vessels, organs, glands, bone. Once the heavy metals are trapped in the tissues, they interfere with the body's ability to function, causing serious damage. Some of the damage occurs in the form of degenerative conditions such as heart disease, arthritis, respiratory conditions, and dementia.

Two of the most common heavy metals are aluminum and mercury. Although aluminum is the world's most abundant metal, it is not needed by the human body to function. Aluminum easily combines with other substances to form compounds, many of which are widely used in industry and food manufacturing. Aluminum hydroxide is found in most antacids, sodium aluminum phosphate is put into processed cheese, aluminum chlorhydrate is used in antiperspirants, aluminum sulfate is used by water treatment plants, and so on. Although some scientists claim that aluminum must be consumed in large amounts to be poisonous, most holistic practitioners recognize the dangers of much smaller amounts. Numerous studies show that aluminum compounds produce (among other disabilities) memory loss, decreased muscle coordination, and slowed growth. Not surprisingly, the brains of people with Alzheimer's disease contain larger than usual amounts of aluminum. Mercury is equally dangerous. Even recently, mercury was used in thermometers. And it's still present in many vaccines (not that vaccines are themselves safe), and in thousands of other items, from carpeting to

compact fluorescent light bulbs. Many manufacturing plants spew mercury into our air and water, causing dangerous levels to accumulate in much of the world's fish. Because mercury lodges in fat cells, some fish that ordinarily would be excellent sources of essential fatty acids are no longer edible.

Regardless of which heavy metal is ingested, they all interfere with our vital life processes. To compound the problem, *Candida albicans* and some other pathogens feed on metals. This is why infections from dangerous microbes often exists alongside heavy metal contamination.

Unabsorbed Minerals

There is a second category of minerals that humans cannot utilize: unabsorbed minerals that are not heavy metals. Although these minerals are not poisonous per se, they are contaminants because they cannot be assimilated by the body. Thus, their effects are similar to (though not always as severe as) the effects of toxic metals.

In their most elementary state, these minerals are found in rock. Water, wind, sun, and soil bacteria break apart rock into soil. From this soil, plants extract the minerals and transmute them into a form that they can use. The humans and animals who eat the plants liberate, through the process of digestion, the minerals into a form that *they* can use. In this context, *organic* sources of minerals are assimilable, and come from plants or animals; whereas *inorganic* sources of minerals are not assimilable, and come from rock or soil.

(The terms “organic” and “inorganic” can be confusing. People interested in a clean diet know foods as “organic” if they are grown without pesticides, herbicides or synthetic chemicals. Conventionally trained chemists call compounds “organic” or “organically-derived” if they contain at least one carbon or one hydrogen atom, and term compounds that lack carbon as “inorganic.” In this current discussion, “organic” and “inorganic” are used to mean the *source of minerals*, which determines their absorbability by the body.)

Humans are designed primarily to assimilate organic sources of minerals, which is why we eat plants and not rocks or dirt. Occasionally, children do eat dirt and even small pebbles, but this isn't common. The children may instinctively be trying to obtain needed minerals in the diet. “Although the chemical analysis [of organic and inorganic minerals] is the same whether found in air, earth, plant or animal,” write father-daughter health food manufacturers Paul and Patricia Bragg in *Water, The Shocking Truth*, “it is only through the *life processes* of the plant whereby the constituents of air and soil become *vitalized* and useful to the human body.” [emphasis added]²

Most chemists study the physical nature of elements and how they interact when they're combined, but without

considering the vital life force of the element. *Electrical charge is a component of life force*. For years, unscrupulous nutritional supplement companies have taken advantage of people's ignorance by cramming their products with cheap, useless, inorganic minerals. (See the sections on **Food** and **Selected Nutritional Supplements** later in this chapter for more details on this vital force.)

To utilize precious minerals, we must ingest them in the proper form—from plants, which transform the minerals for us. There is, however, one exception: when minerals are completely dissolved in water.

Electrolytes: Minerals with a Charge

Water dissolves inorganic minerals when it flows through forests and churns around rocks, ending as a spring, creek, river or waterfall. This moving water is such a powerful solvent that the minerals dissociate from one another and become *charged particles* called *ions*. An ion can be a single atom, or a group of atoms.

Once minerals become ions, their behavior radically changes. Their electrical charge allows them to permeate a cell membrane. Normally, in an atom, the number of (positively-charged) protons in the nucleus equals the number of (negatively-charged) electrons orbiting around it. The first orbital shell closest to the nucleus holds the maximum number of two electrons, the next orbital shell holds a larger maximum number, and so on. In many atoms, the orbiting electrons do not fill their outer shells to capacity. This allows the outer-shell electrons to get bumped or rearranged fairly easily. An almost completely filled outer shell will more easily *receive* electrons, and will thus carry a *negative* charge, because there are now more electrons than there are protons. A sparsely filled outer shell will more easily *lose* its electrons, and will thus carry a *positive* charge, because there are now fewer electrons than there are protons.

It is this dance of oppositely charged particles that give us compounds in so many different and wondrous configurations, which activate almost unlimited life processes. One common example is the positively charged sodium ion (Na⁺) that combines with the negatively charged chlorine ion (Cl⁻) to create the compound mineral, or mineral salt, called sodium chloride. (See Sidebar on page 254, “The Electromagnetic Dance of Atoms.”)

(Incidentally, chemists often compare an atom to a miniature model of the solar system, with the atom's nucleus at the center like our sun, and electrons orbiting the nucleus like planets. Although quantum physicists have recently pointed out that this model of the atom is technically inaccurate, it's still the most familiar, and workable, conceptual design that we have to describe chemical processes. Hence, I am using it.)

The Electromagnetic Dance of Atoms

Elements are partly attracted to each other because of the direction in which their electrons are spinning. The electrons in the outer shell of one element will jump to the outer shell of another element only if the electrons of the two different elements have opposite spins: clockwise and counterclockwise.

Why? Because the movement of electrons (electricity) creates a magnetic field (just as a moving magnetic field can create electricity). If electrons from two different elements have *same-direction* (parallel) spins, they magnetically *repel* each other. If electrons from two different elements have *opposite-direction* spins, they magnetically *attract* each other. This magnetic attraction due to the opposite spins is so strong, it counteracts the repulsion that one might normally expect to occur between two electrons, both of which by definition possess negative charge.

This partly helps explain what takes place, and why, when people are healed with devices that influence the body's electromagnetic, magnetic, electrical, and other subtle energy fields. Just as minerals can affect the electrical and magnetic fields in the body, electromedical devices (with electrical and magnetic properties) affect the body's minerals.

It's not necessary to learn every detail about how ions are formed. The pertinent is that *the movement of energy, called electron transfer, on the electromagnetic level corresponds to a chemical reaction on the grosser material plane*. Life processes occur when the transfer of electrons take place; and minerals play a vital role in this process. "These ions-in-solution," soil scientist David Yarrow writes, "are valuable for their effects on water's [intrinsic] electrical properties. Most often, they increase water's ability to pass an electric current, or store electrical charge."³ This is why ions are called *electrolytes*.

In the body, different electrolytes are located inside and outside of the cell membrane. These electrolytes have different *electrical potential* or driving force, just like a battery. Through many complex steps involving the flow of electrons across a cell membrane, electrolytes help maintain biochemical and physiological changes crucial for life. Electrolytes are responsible for energy production; ease of respiration; maintaining the distribution of water in the body; the proper function of nerves, muscles and organs; the delivery of nutrients to the cell; the removal of wastes; and *osmotic integrity*, or uniform pressure on the inside and the outside of the cell. (*Osmosis* is the diffusion of water or particles across a semi-permeable membrane. The flow occurs from a higher to a lower concentration, until

both sides equalize with the same amount.) If our cells do not receive adequate electrolytes, among other effects the cell membrane collapses and leaks fluid. The water then becomes trapped between the cells, resulting in what we know as water retention, while meanwhile the cell itself is starved for water and all the nutrients the water carries. An unnaturally permeable cell membrane also leaves the cell more vulnerable to invasion by pathogens and the body's waste materials, which in turn acidifies the system further.

Electrolytes also play a key role in the pH (acid-alkaline) balance of the cells. Most minerals are alkalizing while a few are acidifying. We need *all* minerals to function properly, although most of the minerals required for health (calcium, magnesium, potassium and sodium) are alkaline. Alkaline minerals appear in our drinking water more often than acidic minerals, but not always.

Nothing in the body can function properly without electrolytes. All living organisms transmit an electrical charge. The stronger the electrical potential, the more vital the organism is. Low electrical potential equals illness. No electrical potential equals death. (See Sidebar, "The Amazing Story of Alexis Carrel and His Chicken Heart.")

Water and minerals have a unique relationship. The minerals dissolved in water influence its properties. Water with lots of electrolytes has a lower surface tension, which allows it to be better absorbed. Think of a drop of water on a wooden surface. If the surface is heavily waxed, the water is intact and remains where it is—comparable to the action of non-mineralized water. If the surface of the wood is not waxed, the water seeps more easily into the wood—comparable to the action of water rich in electrolytes.

It's no accident that historically, so-called miracle or healing waters have all been alkaline due to (among other factors) a high alkaline mineral content. In Europe, mineral water is defined as having more than 250 ppm of minerals. (*PPM*, or *parts per million*, is the number of micrograms per milliliter.) Not coincidentally, water that contains electrolytes tastes subtly sweet. Good water is actually quite delicious, and very satisfying as a beverage.

Just a little over 100 years ago, before the Earth became polluted with so many chemicals and wastes, there was ample living water that contained electrolytes—dissolved minerals—which made the water *conductive*, or able to carry an electrical charge. Earth's waters generally had an alkaline pH and plenty of oxygen. Today, this is the exception rather than the norm.

Purifying our water is a necessity. However, what we take out of water is as important as what we leave in. If we remove enough of the beneficial dissolved minerals, we may make ourselves ill. This will become even clearer as I discuss various purification methods.

Basic Filtering (Filtration)

Many people filter their water even if the source is an underground spring or well. Underground water can be contaminated with pathogens, or have an unpleasant taste from chemical additives or mineral deposits whose particles are too large, or are the wrong type of minerals. A good filter removes pathogens, chlorine, and large particles. It always consists of a fibrous core through which the water travels before being released for drinking. Different materials for filter cores include activated charcoal and shredded coconut shell. These substances cannot remove fluoride, although ozone can. (The dangers of fluoride will be discussed later.) In addition to fibrous cylinders, the more sophisticated water purification systems use ozone or ultraviolet light, which produces ozone. In any unit, the filter must be replaced regularly or else the core becomes overloaded with contaminants. Make sure to follow the manufacturer's advice on when to change the filters.

Home filtering units can sit on the countertop, be installed beneath the sink, or be fitted at the water's entryway into the house. Filters are important not only for drinking water, but also for bath and shower water. If your water has been pre-treated with chlorine, try to install a filter at the entryway of your home instead of on individual faucets, as chlorine is very toxic. See Sidebar on page 256, "Chlorine: A Lethal Choice for Water Purification."

One popular and inexpensive water filter consists of a small activated charcoal cylinder inside a pitcher. Water poured into the pitcher passes through the charcoal: the purification process. But most people don't bother to pour a little water over the core first and let that water go down the drain. Instead, they use *all* the water that flows through the cylinder. This means that bacteria collected in the charcoal passes directly into the pitcher, as well as the filtered water. Unless you regularly keep the charcoal core free of pathogens, I would not recommend this type of passive filter. Get a water purification unit that *automatically* puts the filter core through a cleansing cycle with fresh water. The best units also circulate ozone to kill any bacteria that may multiply in the filter.

Distillation

Distillation has become a popular method of cleaning water because it removes more contaminants than does simple filtering: heavy metals, all particulate matter, and most pathogens. (It cannot remove fluoride or volatile organic compounds.) All minerals are also removed during distillation, which is why the process is sometimes called *demineralization*. The elimination of minerals eradicates water's ability to conduct an electrical charge. This makes distilled water an excellent foundation for cleaners, cosmetics, and thousands of other preparations where an electrical reaction would be undesirable. (Distilled water

The Amazing Story of Alexis Carrel and His Chicken Heart

In 1912, French-born surgeon Alexis Carrel won the Nobel Prize in Medicine for devising unique ways to suture blood vessels, repair damaged arteries, and transplant organs. By 1935, together with famous aviator Charles Lindbergh (who was also an environmentalist and an inventor in his own right), Carrel created the first artificial heart.

But the accomplishments of Carrel's that are the most commercially publicized may not be the most important. From 1912 to 1940, the scientist kept a piece of embryonic chicken heart alive in a solution whose minerals were present in the same proportion as the minerals in chicken blood—and which had the same alkalinity (a pH of 7.35 to 7.45). Carrel was careful to change the solution and oxygen every single day. The experiment ended only because he deliberately stopped bathing the heart tissue 28 years later.

Normally, the life span of a chicken is no more than eleven years (assuming she didn't die at around age four from the stresses of commercial, continued egg laying). Carrel was able to keep the heart tissue healthy and alive because *the mineral solution nourished the cells, and the replacement of the fluids every day ensured that all the cellular waste materials were removed*. One of the secrets, then, to health and longevity is not only proper nutrition, but also *waste removal*. Carrel's mineral bath regularly eliminated the waste products of cellular metabolism!

Theoretically, there is no limit to the number of divisions that a healthy cell can undergo, provided it's kept free of metabolic wastes. This has enormous implications for theories about aging. What if so-called "aging" is largely the breakdown of the tissues due to toxification?

Interestingly, Carrel spent many years working at the Rockefeller Institute for Medical Research in New York City until the administration forced him to retire. The Rockefeller family has major ties to the medical-pharmaceutical industry. The Institute bestowed much public praise on Carrel for his undeniably spectacular surgical innovations, but was remarkably quiet about the doctor's discovery that simply keeping the body in its pristine state—with nothing more than oxygen and a mineral bath—may be one of the best-kept secrets to healing, health, and longevity.

is also needed to make colloidal silver, discussed later in this chapter.) The uniformity of distilled water, precisely due to its lack of minerals, ensures that the properties of preparations made with it are consistent with each batch. Thus distilled water is a standard ingredient for industry.

Industry requirements are quite different from drinking needs. Of all the methods to make water drinkable, distillation is the most controversial. The allegations for and against distilled water are many and confusing. It's the best water to drink; it's the worst. It doesn't leach minerals from the body; it does. Or, it leaches minerals from the body, but only the harmful heavy metals. Some people swear that distilled water healed them and they won't drink anything else. Others claim that distilled water causes severe mineral depletion, some practitioners even reporting that clients who exclusively drank distilled water upset their body's mineral balance in just three weeks. Counter arguments assert that although this depletion may occur, it can take a long time. No wonder the average person is baffled!

Water's innate ability to act as a solvent means that it will always contain some minerals. In Nature, though, water without minerals doesn't exist. Therefore, when water is demineralized, it becomes a ferocious solvent. Deprived of minerals (along with any serviceable conductivity), the

now denatured (de-Natured) water seizes minerals from anything it touches so it can replenish itself. It doesn't matter what distilled water seizes: it will grab minerals, metals, chemicals, acids, anything that can dissolve in it.

The thorough removal of minerals via distillation gives water a totally neutral pH of 7.0, at least theoretically. In reality, the pH measurement is lower. Because distilled water is so reactive, the instant it's exposed to air it reacts with carbon dioxide, a naturally acidic gas. This creates carbonic acid, which becomes part of the overall solution. The presence of carbonic acid instantly makes the water acidic. My freshly made distilled water has never tested above 6.8; usually it measures 6.4 or 6.5. My tests of commercially distilled water (bought in supermarkets) have shown even more acidity, with a pH sometimes as low as 5.8. You can test the pH of your own water with a colored fluid available at pet stores, which is used for aquariums. This works better for water than pH strips, which are more accurate for bodily fluids. People struggling with high levels of acidic wastes may be palpably harmed by drinking acidic water.

The carbonic acid issue aside, what are the effects of drinking water that doesn't contain any minerals, or is low in minerals? In "Water—The Choice for Long-Term Health," Michael Donaldson explains:

Chlorine: A Lethal Choice for Water Purification

Chlorine, commonly added to municipal water supplies to kill pathogens, is very dangerous and highly reactive. It readily combines with other substances to form a variety of toxic compounds, including carcinogenic trihalomethanes, nitrogen trichloride (a cause of asthma in chlorinated pools), and other byproducts. These chemicals cause, among other problems, birth defects; cancers of the bladder, bowel, breasts and kidneys; fertility problems; heart disease, including high blood pressure and hardening of the arteries; and immune breakdown.

Chlorine was originally used as a rarefied, deadly weapon during World War I. However, it is so widespread now that its use seems normal. Aside from poisoning the body outright, chlorine—like its chemical relatives fluoride and bromine—displaces the beneficial mineral iodine. This leads to an incredible variety of health problems. Without iodine, the thyroid gland cannot manufacture thyroxine, the hormone used to regulate metabolism. The lack of thyroxine causes problems ranging from abnormal body temperature to depression to a sluggish immune response. Without the germicidal properties of iodine, the body cannot protect itself adequately against infections, including cancer. Most of the iodine the body uses is located in the thyroid, breasts, lungs, and sinuses.

There are many ways in which chlorine can get into the bloodstream. When put into bath and shower water, swimming pools, and hot tubs, chlorine is absorbed directly through the skin. Hot or even warm bathwater causes the pores of the skin to become more open, so any chlorine that's in the water is more readily absorbed. This is why showering in chlorinated water is the equivalent to drinking eight glasses of it at once. Breathing in steam from the hot water allows chlorine to directly enter the lungs, where it damages the lungs' delicate membrane lining and contributes to asthma, bronchitis, and other respiratory conditions. Chlorine is also a serious eyes irritant, causing itching and burning. Even if no serious disease develops, the chemical dries out the skin's natural moisture barrier.

Chronic exposure to chlorine—which is not difficult, considering it's put into drinking water, bathwater and swimming pools—creates chronic inflammation. Over time, cells and tissues become damaged faster than the body can repair them; and cell damage equals disease and aging. Symptoms from chlorine exposure occur long before the chemical can be smelled, at levels over 3.5 parts per million (ppm).

There's absolutely no reason to use chlorine as a water purifier, especially when other, excellent options are available—such as ozone, and bars made from silver and copper.

In the desalination industry [which removes salt, along with all other minerals, from seawater to make it drinkable,] it is an industry-wide rule that water must be partially remineralized before sent down the distribution pipeline because . . . [it] is too aggressive and will cause severe corrosion of the pipeline. . . . One report from a desalination plant in Cyprus producing over 10 million gallons of purified water per day found that iron [from the pipes] was being leached into the water supply. By alkalizing the water [which required the addition of certain minerals]. . . the iron corrosion was stabilized.⁴

Distilled water can corrode metal pipe, but how does it react in a living body? Does it draw toxic metals to itself? What about beneficial minerals? Common sense indicates that once inside the body, any liquid becomes part of the systemic fluids, which by definition contain minerals. Therefore, distilled water will no longer be distilled. Nevertheless, there's ample evidence that distilled water can damage our health. Why is this?

The following data was not easy for me to find because many of the papers on this topic are published in languages other than English, and few have been translated. However, what I did unearth is compelling. The best research on inadequately mineralized water—which of course also applies to distilled—was done decades ago by individuals who weren't selling water filters or distillers. First I'll address water that's merely low in minerals, rather than totally lacking in them.

In 1977, a comprehensive, US government-sponsored, 939-page report called *Drinking Water and Health*, was published by the Safe Drinking Water Committee of the National Research Council. "Several hypotheses are reported on how water factor(s) may affect health," they wrote. "These mostly involve either a protective action attributed to some elements found in hard [mineral-rich] water or harmful effects attributed to certain metals often found in soft [mineral-deficient] water."⁵

Heart conditions and other health problems were strongly influenced by the quality of water.

More than 50 studies in nine countries have been carried out on the possible relationship of water hardness and health . . . A voluminous body of literature suggests that in the United States and other developed nations . . . [there is] an *inverse* correlation between the incidence of cardiovascular disease . . . (heart disease, hypertension, and stroke) . . . and the amount of hardness. . . . Studies in the United States

and Canada have shown that age-adjusted cardiovascular mortality rates among populations using very soft water may be as much as 15% to 20% higher than among populations using hard water. The differential reported for the United Kingdom may be as high as 40%. . . . A few reports also indicate a similar inverse correlation between the hardness of water and . . . risk from several non-cardiovascular causes of death [including the formation of kidney stones and the development of cancer].⁶

The authors considered all possibilities regarding where people might obtain their minerals. The form of the minerals was important, too. The minerals in the hard water that the researchers studied were completely dissolved ions, or electrolytes. The authors also noted which minerals were helpful and which were harmful.

The amount of these elements provided through drinking water relative to other sources is less important than their chemical form. It is theorized that trace elements . . . in foods . . . may be less available metabolically than the ionized form that generally occurs in water. . . . Another possible variable is the different effect of hard and soft waters on the mineral composition of foods during cooking . . . Soft [mineral-deficient] water may remove a significantly higher proportion of various "protective" nutrients and elements from foods during cooking than do hard waters. [This is because both no-mineral and low-mineral waters draw other minerals to themselves in an effort to restore balance.] . . .

Investigators have attributed the disease-protective effect of hard water to the presence of calcium and magnesium . . . [and] vanadium, lithium, chromium, and manganese. . . . The suspect harmful agents include the metals cadmium, lead, [inorganic unbound] copper, and [inorganic unbound] zinc, all of which tend to be found in higher concentrations in soft water as a result of the relative corrosiveness of soft water [which was so corrosive that it leached metals from the pipes.]⁷

The results of yet more studies, conducted outside the United States, are summarized by Donaldson.

[A Russian study] compared the populations in two cities that were supplied with different water—one with low TDS [total dissolved solids], low calcium, and low magnesium, and

the second one with higher TDS, calcium, and magnesium in the water. Other mineral levels in the water were also determined. The population in the area supplied with the lower mineral water showed higher incidence rates of goiter, hypertension, ischemic heart disease, gastric and duodenal ulcers, chronic gastritis, cholecystitis (inflammation of the gall bladder) and nephritis (inflammation of the kidneys). Children in this area with the low mineral water had slower physical development and more growth abnormalities, newborn mortality rates were higher, and pregnant women had more edema and anemia. Clearly, the minerals in the water were benefiting this population.

In another Russian study women living in four Siberian cities, which had increasing amounts of calcium and magnesium in their water, were followed for health outcomes. In the two cities with the lowest levels of water minerals there were more cardiovascular problems, higher blood pressure, headaches, dizziness, and osteoporosis compared to the two cities with the highest levels of water minerals. . . .

A study with over 4,000 women in France found that consumption of calcium in their drinking water was associated with an increase in bone density.⁸

A more recent report, *Nutrients in Drinking Water*—published in 2005 by the World Health Organization (WHO)—was written by a panel of water specialists who were examining the impact of making sea water drinkable through the process of desalination. In many parts of the world, where water is not potable (drinkable), using seawater would be a reasonable option were it not for its excessively high levels of salt, which can rather quickly cause dehydration and death. (This is due to the overload of salt on the kidneys, which cannot make urine if the salt concentration is too high.) The panel wondered about the health hazards and benefits of purifying seawater through sand, through harmful chemicals (such as chlorine), through caustic but provisionally safe chemicals (such as chlorine dioxide, also called MMS), or with ozone. Correcting the water's pH was also addressed.

The panel remarked that historically, research has focused more on the toxic contaminants and total dissolved solids in drinking water than the protective effects of its minerals. However, the benefits of minerals became highlighted due to the main concern, which was the effects of desalination. While desalination is a good method for

removing large amounts of undesirable salt from seawater, it also removes nutrient minerals. Therefore, among other questions, the panel asked: Should minerals be added after the desalination process? If so, which ones? What amounts are appropriate for infants, young children, and adults? And does diet make a difference in which minerals to add?

The panel's conclusions matched those of their Safe Drinking Water Committee predecessors. "Drinking water should contain minimum levels of certain essential minerals," including calcium, copper, iron, magnesium, manganese, selenium and zinc. "Demineralised water that has not been remineralized, or low-mineral content water . . . is not considered ideal drinking water."⁹ The numerous health effects cited were similar to those found by researchers three decades earlier.

The WHO panel was careful to explore the possibility of bias. Because much of their data was based on older studies, the members considered the possibility that some of the studies "may not meet current methodological criteria." However, they decided,

These findings and conclusions should not be dismissed. Some of these studies were unique, and . . . are not so questionable as to necessarily invalidate their results. The older animal and clinical studies on health risks from drinking demineralised or low-mineral water yielded consistent results . . . and recent research has tended to be supportive.¹⁰

Significantly, some of the research that formed the panel's above conclusion was on *distilled water*. I'll get to that in a moment. First, the panel's recommendations:

International and national authorities responsible for drinking water quality should consider guidelines for desalination water treatment, specifying the minimum content of the relevant elements such as calcium and magnesium. . . . Authorities should ensure that the guidelines also apply to uses of certain home treatment devices and bottled waters.¹¹

We are fortunate to have a report that's specifically about distilled water and its effects on health. It was commissioned not by a distiller manufacturer, but by the WHO in the late 1970s. Professor Sidorenko and Dr. Rakhmanin led a team of researchers from the A.N. Sysin Institute of General and Public Hygiene and the USSR Academy of Medical Sciences. Their conclusion? "Not only does completely demineralised water (distillate) have unsatisfactory organoleptic properties [an unpleasant taste and smell], *but it also has a definite adverse influence*

on the animal and human organism.” [emphasis added]¹²
Donaldson gives an excellent summary of the study:

Rakhmanin carried out a one-year experiment with rats using low mineral water. Negative effects were found. These rats had an increase of extracellular body water, increased sodium concentration in the blood, increased urine output, and increased losses of sodium and chloride ions in the urine. There were also hormonal changes including reduced secretions of tri-iodothyronine [a form of thyroid hormone used by the tissues] and aldosterone [an adrenal cortex hormone that regulates kidney function and balances the body's electrolytes], and increased secretion of cortisol [a stress hormone secreted by the adrenal cortex], and morphological [structure and function] changes in the kidneys. There was evidence of reduce[d] skeletal ossification of rat fetuses of the dams given *distilled water* during the one-year study . . . Many of these same findings were repeated in human volunteer studies—increased urine production (almost 20%), increased body water volume, increased sodium concentration in the blood, decreased potassium concentration in the blood, and increased elimination of sodium, potassium, chloride, magnesium, and calcium ions from the body. [emphasis added]¹³

Any discussion of water should include the variable of diet because we obtain minerals from foods. Were the people in these reports receiving enough minerals from the foods they were eating? If their diets were adequate, would they have had the same health problems from drinking water that contained few or no minerals?

Some people in the health field believe that most of our minerals, and indeed all other nutrients, should come from food. The aforementioned Braggs, persuasive advocates of distillation, correctly pointed out that distillation produces pure water in this polluted age (although they did not address its inability to filter out fluoride and VOCs). In fact, Paul Bragg was in glorious health until the day he died, well into his 90s (not from illness, but from a surfing accident). He wrote that he enjoyed great health because he drank distilled water every day, along with quarts of fresh vegetable and fruit juices and a vegan diet of mostly raw fruits and vegetables. But to ascribe the health of the Braggs to distilled water is misleading. Daily fresh juices are rich in dissolved, *ionic* minerals—electrolytes. The unusually high levels of absorbable minerals should easily offset any mineral-depleting properties of distilled water. If someone feels better distilling their drinking water, could it be that

The ORP of Water

ORP, or *oxidation redux potential* (also known as *redox*), is one of the ways in which the quality of water is assessed. When applied to water, ORP is a measurement of water's tendency to acquire or lose electrons—in other words, the degree to which it can oxidize or reduce another substance. This activity (electrical potential) is measured in millivolts.

The electron level and activity is one way to measure beneficial changes in the water. More electrons are associated with increased energy. A greater number of electrons also indicates more antioxidant properties, higher oxygenation, and an enhanced ability of the water molecules to form into microclusters. This clustering, also known as *structuring* which yields *structured water*, makes the water “wetter.” The fluid more easily crosses cell membranes, which creates more hydration.

Water's ORP level is also important because the higher the ORP, the less chance of survival for pathogens such as *E. coli*, *Listeria*, and *Salmonella*.

the previous water source was so heavily contaminated that distilled is better only by comparison?

The WHO panel did factor in the effects of diet.

It influences the evaluation of the nutrient mineral content in drinking water considerably. . . . Use of foods that are naturally rich in trace elements like zinc and iron (e.g. meat) or minerals like calcium (e.g. dairy products) is recommended, but may not be practised because these foods are not available, affordable or acceptable for the family. This may lead to reliance on predominantly plant-based or vegetarian diets of poor nutritional quality. In these situations, and depending on its composition, drinking water may contribute a considerable part of the dietary mineral intake.¹⁴

Animals greatly benefit from mineralized water too. Donaldson writes that animals who had zinc or magnesium added to their drinking water:

had much higher levels of zinc and magnesium in their blood than a comparison group that was fed much higher levels of these minerals in their food but provided with low-mineral water to drink.¹⁵ . . . [Furthermore] the bioavailability of minerals from water has been studied in people as well [as animals]. . . . Water is a good carrier of minerals. . . . Minerals in water are as available to be utilized by the body as minerals in food, sometimes even more available.¹⁶

It's worth exploring in depth how low-mineral water affects the digestive tract. As the WHO panel explained, distilled water produces "direct [undesirable] effects on the intestinal mucous membrane, metabolism and mineral homeostasis or other body functions." This causes "little or no intake of calcium and magnesium, . . . [a] low intake of other essential elements and microelements, [and] . . . loss of calcium, magnesium *and other essential elements in prepared food.*" [emphasis added]¹⁷

A complete lack of minerals—and even an inadequate intake of minerals—causes an imbalance of those minerals that are already in the body. Once the imbalance starts, the body tends to retain more sodium than necessary and excretes other vital minerals such as potassium, magnesium and calcium. Loss of these vital minerals leads to increased stress (due to augmented levels of stress hormones); abnormally soft bones (at least in developing rat fetuses, and we must assume in humans as well); and excessive bloating (due to the tendency of water to seep between the cells where it doesn't belong, instead of inside the cells where it does belong). Thus, many outright nutritional deficiencies can be *caused* by drinking mineral-deficient water, even if the diet is good. And we don't merely avoid becoming depleted by drinking mineral-rich water: many nutritional deficiencies can be *corrected* by drinking water containing small amounts of potent, dissolved minerals—electrolytes—which carry the vital electrical charge that allows cells to function.

Simply put, even small amounts of ionic minerals help the body absorb and utilize whatever else you're eating and drinking. People who are sick suffer from an electrolyte imbalance, which impairs digestion. Impaired digestion prevents the body from optimally extracting minerals from food—which in turn impairs digestion even more. It's worth reiterating the WHO researchers' emphasis that "even the relatively low intake of the element in drinking water may play a relevant protective role. This is because the elements are usually present . . . as free ions and therefore, are more readily absorbed from water compared to food where they are mostly bound to other substances."¹⁸ "Iodine, selenium and magnesium," advises *Acres USA*, a holistic farming magazine, "are the three minerals most likely to be deficient."¹⁹

The WHO report also affirmed the danger of "possible increased dietary intake of toxic metals."²⁰ In the absence of beneficial minerals that it truly needs, the body is so starved that it will grab an element *relative* with chemical *similarities*—even if it's a toxic heavy metal. Thus, there are many reasons to make sure the water you're drinking contains enough of the right kind of minerals.

Donaldson explicitly addresses the harm of distillation and any other water purification process (such as reverse osmosis) that either entirely strips the water of minerals or even simply decreases the levels of minerals:

Studies showed that low mineral water caused an extra loss of sodium, chloride, potassium, magnesium, and calcium ions from the body. *Low mineral water isn't neutral, but it pulls out minerals from the body.* So, instead of adding an extra 40 mg of magnesium and an extra 100 mg of calcium from the water, *a person drinking distilled or RO [reverse osmosis, another demineralization process] water will have to make up that much and more, due to the extra loss of minerals. Over time this could have an impact. Not everyone will be affected, but people drinking larger amounts of water or getting fewer minerals from their foods will be impacted first.* . . .

Distilled water can be used if you make up for it with a high mineral intake . . . Distilled water, and other low mineral water, is not a neutral water; it actually takes away from you, whereas water with optimal concentrations of minerals in it actually supply your body with good building material. [emphasis added]²¹

The warnings are very clear. If you drink either low-mineral water or no-mineral water—without compensating for the loss of those minerals by drinking fresh vegetable juices or taking ionic mineral supplements—you *will* damage your health! (For those who may not benefit enough from electrolytes, I discuss specially bound minerals in **Nutritional Supplements**.)

There's one more aspect of distilled water to consider: the equipment used to make and store it. Most commercially available distilled water (which is typically sold in supermarkets and grocery stores) is stored in soft plastic. This is a very poor choice of packaging because the resins of the plastic leach (outgas) into the volatile distilled water (see Insert, "The Dilemma of Plastics and Bottled Water"). If you use a lot of distilled water—which you will, especially if you make your own colloidal silver (see **Colloidal Silver** later in this chapter)—you will save money and have better health if you buy your own distiller. Home units usually come with containers of relatively stable, hard plastic, which although not perfect is much safer than softer plastic. I have not yet found distillers that come with glass containers.

The commercial distillers (which is most units on the market) that cannot eliminate hydrocarbons or volatile

The Dilemma of Plastics and Bottled Water

Plastic is convenient for water storage and it doesn't break. However, it's not biodegradable. Plastics are designated with recycling code numbers inside triangular symbols on the bottom of the containers.

- ◆ **Plastic #1.** Polyethylene terephthalate (PET or PETE), also called *phthalates*. Used for foods, juices, and mouthwash. Plastic is for one-time use only because bacteria readily accumulate on its porous surface. When exposed to heat over long periods, these plastics leach out antimony, a toxic heavy metal.
- ◆ **Plastic #2.** High-density polyethylene (HDPE). This hard opaque plastic is used for drinks, detergents, and some toys. It leaches estrogenic chemicals.
- ◆ **Plastic #3.** Polyvinyl chloride (PVC). Mixed with phthalates to make it soft and flexible, it's used for cling wrap, shower curtains, inflatable toys, flooring, and car interiors. It outgases toxins, causing cancer, immune malfunction, hormone disruption, birth defects, and behavioral and learning disorders.
- ◆ **Plastic #4.** Low-density polyethylene (LDPE). Clear or opaque, flexible but breakable, it's used for drink cartons and food bags. It leaches estrogenic chemicals.
- ◆ **Plastic #5.** Polypropylene (PP). Used for food containers, it's resistant to heat and moisture. PP is hazardous during manufacture but of all the plastics, leaches the fewest dangerous chemicals.

Most plastics are very dangerous. The bottles leach estrogen-like phthalates into the water, feminizing the males of many species including humans. Phthalates are carcinogenic and cause birth defects. They damage the nervous, respiratory, and reproductive systems. Tiny plastic particles, microplastics, leach from bottles into the water—two times more than what's in tap water.

Many products, including canned foods, contain highly toxic Bisphenol-A (BPA), a synthetic carbon-based compound. As more studies have been published on the harm of plastics, consumers have demanded safer substitutes. In response, the plastic bottle industry has changed many of its formulas. But although BPA is no longer being used in many items, it's now being replaced with Bisphenol-S (BPS). Bisphenol-S is touted as safer, but researchers are finding that it causes at least as much damage as—and probably more than—BPA.

It takes precious resources, energy, and petroleum to manufacture bottles. It also seems wasteful to ship countless brands of water from halfway across the world. And, despite the recycling imprints on the containers, much of the plastic is *not* recycled. Plastics end up in our waterways, destroying the habitats of ocean dwellers from corals to sea turtles to whales.

Marine mammals, caught in plastic debris, drown and die in the sea, unable to surface for air. The situation is so serious, Japanese scientists are trying to further develop a type of bacteria that they discovered feeds on plastic.

Bottled water is subject to heavy marketing fraud. Corporations that are losing money from reduced soda sales are trying to regain income by selling "designer" water that they falsely advertise comes from "clear, pristine mountain streams" or "untouched melting glaciers." A very few bottled waters, which do taste wonderful and feel vibrant, have (truthful) labels indicating a high mineral content and a correspondingly alkaline pH. Too often, though, the claims of water bottlers are bogus. Their designer water is simply tap water that has been filtered—and not very well. Most brands show high levels of contaminants, including bacteria, arsenic, chloroform, phthalates, and microplastics. Bottled water is rarely thoroughly tested.

Forgetting the very real problems of unsafe plastics and environmental destruction (both in the creation and discarding of the bottles), it's disturbing that consumers' desire for bottled water is automatically considered a "fad." If tap water tasted that great—or was as healthy or innocuous as some claim—there would be less consumer demand for bottled water. I have *never* found tap water to be drinkable. One house I lived in had sulfur in the water, which came directly from an underground well. Sulfur is great if you're soaking at a hot spring: the water heals the skin and relaxes muscles. But most people find sulfur thoroughly unpalatable for internal use. In another dwelling, my water came from an underground spring, but it was heavily chlorinated and fluoridated before it reached the sink. In Philadelphia, one of the largest cities on the East Coast of the US, the municipal tap water was subjected to so many harmful chemicals that the water literally foamed as it came out of the kitchen faucet! And in a country home I rented for awhile, the pH was much too acidic for me, at 5.5.

Clean water isn't a privilege, it's a right. However, tap water isn't drinkable. And plastics are unsafe, wasteful, fraudulently marketed, and destructive to the environment. Many good brands of silicone-coated, reusable glass containers are now being sold. You can fill them each time with clean water—filtered and mineralized, or electrolyzed—before you leave your home. It's more work, but safer for all life.

Contamination and taste of water wouldn't be an issue if the water were filtered and ozonated. Ozone is the safest, most effective way to purify water.

organic compounds (VOCs) such as benzene, boil and condense the water only once. A few of the better units are equipped with a second filter. This additional filter further sanitizes the already distilled steam, and will remove almost all of the hydrocarbons. This is a great advantage for those whose water is filled with such contaminants. Fairly good quality water distillers can be bought for just over a hundred dollars. Units that put the steam through an additional cycle to remove most of the hydrocarbons, cost more.

Distilled water does have its place, as long as you compensate for its disadvantages and remineralize the water after cleaning it. Adding minerals to clean water that's not even distilled is also a good idea. After discussing reverse osmosis and water electrolysis, I will suggest ways in which you can remineralize your water.

Reverse Osmosis

Many homes in the United States use a filtration system called *reverse osmosis*, or RO. This US government-funded technology was developed in the late 1950s to remove salt from sea water. First used by industry (including water bottling plants), RO eventually became available to consumers. It can be installed at the main water line that feeds the entire house to be used for drinking, clothes and dish washing, and bathing. Or, smaller units can be installed under the kitchen sink to treat drinking water only, and still smaller units can be placed on a countertop.

During the RO process, water is forced at high pressure through a series of coiled, semipermeable membranes, which separates the water from unwanted substances. As with all types of water purification units, RO filters need changing because bacteria accumulate over time. RO has some advantages. Unlike most other filtration processes, it eliminates fluoride. It also diverts the waste materials into a drain, thus slowing contaminant buildup in the units themselves.

There are, however, some disadvantages to most RO systems. They waste four gallons of water for each usable gallon collected. And the water can taste awful, probably due to its lack of minerals. Any minerals that RO normally removes are larger than the water molecules—minerals that the body can't assimilate anyway. But if the treated water contains no assimilable minerals (electrolytes), the water acts like distilled and leaches molecules of insoluble metals from the plumbing pipes or metal in the unit, imparting a metallic taste to the fluid. There are exceptions, however. One affordable countertop RO system that produces great tasting water, and yields more water than it wastes, is AquaTru (see Appendix A).

Water Electrolysis (Ionization)

Most people have not heard the term *electrolysis* used in relation to water. (Its popular usage pertains to the removal of hair.) Water electrolysis, also called *ionization*, was developed in Japan several decades ago. This wonderful way of treating water is worth exploring in some depth. Although water electrolysis involves learning just a bit more chemistry, because so many people benefit from this technology it's worth trying to understand it.

As already discussed, when ions are present in a liquid, electrical energy can be conducted through the solution. In a liquid, different elements form ions in varying amounts, depending on the ability of the atoms to gain or lose electrons. These atoms *dissociate* or *ionize* in solution to form either *hydrogen* ions (H+) or *hydroxyl* ions (OH-). Depending on the presence or absence of H+ and OH- ions, a given solution will be acidic or alkaline. If the hydrogen ion (H+) concentration is *higher* than the hydroxyl ion (OH-) concentration, the material is *acidic* (as in "acid"). If the hydrogen ion (H+) concentration is *lower* than the hydroxyl ion (OH-) concentration, the material is *alkaline* (or *basic*, as in "base"). Put another way, if there are more hydroxyl ions (OH-) than hydrogen ions (H+), the liquid will be alkaline.

Minerals tend either to be *positively* charged or *negatively* charged. Some common acidifying minerals are iodine, sulfur and phosphorus. Some common alkalizing minerals are potassium, sodium, calcium, magnesium, iron, lithium and manganese. The presence of acidic minerals (which tend to have a negative electrical charge) corresponds to positively charged H+ ions. The presence of alkaline minerals (which tend to have a positive electrical charge) corresponds to negatively charged OH- ions.

During water electrolysis, the two opposite-polarity ions, OH- and H+, are created when an electrical charge is passed through the water. Then an elaborate dance begins. Sang Whang, an enthusiastic proponent of water ionization, explains:

Alkaline minerals in the positive electrode chamber migrate into the chamber with [the] negative electrode; the positive electrode repels positive charges and the negative electrode attracts positive charges. As these positively charged alkaline minerals enter the negative electrode chamber, they combine with hydroxyl ions (OH-) in H₂O, kicking out hydrogen ions (H+). These hydrogen ions then travel to the negative electrode and give up their positive charge and become electrically neutral hydrogen molecules (H₂).

How Does Alkaline Water Behave Once It's In the Body?

When the alkaline water reaches the very acidic stomach, doesn't the stomach's hydrochloric acid neutralize it so that the water is no longer alkaline? If so, what's the advantage of drinking alkaline water?

The pH of alkaline water indeed becomes more acidic in the stomach, while at the same time the normal 4.0 (acidic) pH of the stomach fluid becomes more alkaline. Yet the alkaline water is not wasted. Its minerals are used by the body to maintain the correct pH of the tissues, which is a vital job.

Alkaline minerals reaching the stomach react with the hydrochloric acid to form alkaline compounds: chlorides; carbonates; and magnesium, potassium, sodium, and calcium bicarbonate. These bicarbonates travel to the small intestine to neutralize the acidic food slurry (*chyme*) exiting the stomach. Neutralization is necessary because the intestine doesn't possess a thick layer of mucus to protect its walls from the corrosive food mixture. The pancreatic juice made by the pancreas, which also mixes with chyme, contains sodium bicarbonate for the same reason.

Some of the sodium bicarbonate made by the body goes into the blood. If too much acidity threatens the bloodstream—blood pH should be between about 7.35 and 7.45 at all times—the sodium bicarbonate acts as a buffer to make the pH more alkaline. It creates the buffer by dissolving solid acidic wastes into liquid. This releases carbon dioxide, which is expelled through the lungs. (Likewise, if the blood threatens to become too alkaline, acidic buffers appear to make the pH more acidic.)

Gauging by the pH value of the stomach alone, one might wonder if alkaline water ever reaches the body. But it does. All minerals are transported to the extracellular fluids, which surround each cell of the body. Naturopathic-chemist Frank Cuns-Rial explains:

The extracellular fluid is the largest and most disregarded organ of the body. The blood deposits nutrients into this fluid, and from there the nutrients are transferred into the cells. The health of this fluid is paramount because it interacts with the blood and the cell membranes. It's important to have a wholesome concentration of alkaline minerals to feed the cells and influence the blood pH.

Minerals are bound or attached to different chemical combinations or compounds, resulting in chlorides, carbonates, etc. These combinations perform different tasks as required by the body. For example, an atom of magnesium might exist in the form of a chloride in the stomach, as aspartate [a

compound of aspartic acid] in the gut, and as citrate once it reaches the cell membrane. When magnesium finally enters the cell, it's ionic, or unattached, with a minute electrical charge. Sometimes the mineral is strongly linked (as in the chloride form). Sometimes it's loosely linked (as in the aspartate form). And sometimes it's very loosely linked to other substances such as enzymes, proteins, or hormones. But the atom itself does not undergo any chemical change when it's attached to different carriers. Ultimately, it's the ionic form of the mineral that confers alkalinity to the extracellular fluid.²²

In other words, although minerals often can (and do) change from one chemical form to another, their *intrinsic identities* remain intact. Therefore, an inherently alkaline mineral—no matter how it's bound, what other compound it's attached to or how it's "packaged"—will maintain its inherent alkalinity. It will impart that inherent alkalinity to the extracellular fluid. This is why alkaline water maintains its alkalinity at the cellular level.

Optimally, one should drink alkaline water on an empty stomach. The stomach is designed to produce more hydrochloric acid as soon as its pH rises above 4.5. Therefore, when alkaline water with an 8.5 pH or higher is drunk, the stomach produces more hydrochloric acid—which, in turn, increases the body's production of bicarbonates, which then enter the bloodstream.

Alkaline water proponent Sang Whang believes that one major cause of aging is due to insufficient levels of bicarbonates in the blood. Less bicarbonate means a reduced ability to neutralize and eliminate acidic wastes produced by the body. The phrase "alkalize the system," Whang points out, does not refer to raising the pH of the urine or saliva—remember, the blood pH is regulated to remain constant—but to increasing the amount of bicarbonates in the blood. Significantly, when all aspects of the body's pH are balanced, the tissues are oxygenated at their saturation point, which reduces the possibility of cancer and other diseases.

While many people feel better drinking alkaline water, not everyone benefits. Some people are helped, but only for brief periods. Depending on the water source, an optimal pH for water may range from about 6.5 (if it's from a living spring, producing clustered water) to 8.5. If you have concerns about drinking alkaline or acidic water on a regular basis, consult with an experienced specialist who understands body chemistry and your unique health issues.

The opposite process takes place with acid minerals. Acid minerals migrate into [the] positive electrode chamber and combine with hydrogen ions (H^+) in H_2O , kicking out hydroxyl ions (OH^-). These hydroxyl ions then travel to the positive electrode, lose negative charge and become water (H_2O) and oxygen (O_2). In the ionizer, oxygen gas is released from the acid water chamber and hydrogen gas is released from the alkaline water chamber. Both chambers remain electrically neutral.²³

Simply put, a water electrolysis unit (ionizer) converts regular tap water into alkaline water and acid water by separating the acid-forming and alkaline-forming minerals via an electrical current. Negatively charged minerals are attracted to the positive electrode, and positively-charged minerals are attracted to the negative electrode. During this process, the acidic ions and alkaline ions are also separated and eventually neutralized. What remains is water called “acidic,” which contains acidic minerals, and water called “alkaline,” which contains alkaline minerals. The acidic and alkaline waters are collected in two separate chambers attached to separate output tubes.

Depending on the mineral content of the source water and the pH programming of the ionizer, the pH value of the alkaline water can range anywhere from the low 7s to 10.5 or even higher. Whang writes:

The main alkaline minerals of tap water are calcium and a small amount of magnesium. . . . In the pecking order of ion exchange of the four alkaline minerals in water, potassium is the strongest, next is sodium, then calcium, and the last is magnesium. Stronger minerals can replace weaker minerals, but not the other way around.²⁴

Perhaps even more important than the pH modification, this unique water technology also changes the molecular structure of the water—usually from a 12-molecule cluster into a hexagon, half as large as tap water molecule chains. Such water more completely dissolves those minerals that are present. The smaller molecule also makes water “wetter,” able to permeate cellular membranes more easily and rapidly. This superior hydration promotes more efficient nutrient transport across the cell membrane, and a more complete removal of wastes. Sometimes wetter (ionized) water is called *micro-clustered* or *clustered* water.

Both acidic and alkaline waters have been successfully used in Japanese hospitals for many years. The skin—whose natural, slightly acidic coating acts as a protective barrier against germs—is bathed in the acid water for treatment of skin conditions such as eczema and boils.

When people drink the alkaline water, the internal pH becomes more balanced, and the body’s terrain becomes less hospitable to pathogens. Alkaline water has a higher concentration of oxygen as well as assimilable minerals.

The degree of benefit from water electrolysis (ionization) depends on the source water feeding the unit. If your goal is to obtain large quantities of alkaline water, your source water must be sufficiently alkaline. If the water is acidic—say, below 6.8 or 6.7 (7.0 is neutral)—you’ll have to pump quite a bit of water through the device to obtain enough alkaline fluid for drinking (although you’ll get lots of acid water for a refreshing bath). Also, even if the finished water product is purified and contains only ionic (assimilable) minerals, these minerals might not exist in the proportions that your body needs. An electrolysis device can only work with the minerals present in the source water. For this reason, some units are equipped with calcium and magnesium mineral packets that add alkalinity (and those particular minerals) to the water.

Do you need a water electrolysis unit if your source water is substantially alkaline, and contains a nice variety of minerals in the amounts that you need? That depends. Even though water is an excellent solvent, not all of the minerals in it may be completely dissolved (ionic). Over time, mineral salts that cannot be dissolved (and are thus unable to be assimilated) can cause damage similar to that of heavy metals. They can lodge intrusively in the joints (causing arthritis) or remain in the kidneys (causing painful stones that block the ducts). This is the one way in which beneficial minerals can act like heavy metals: if they aren’t absorbed by the body. For this reason alone, some people invest in a water electrolysis unit.

Restoring the Water

Now that you have purified your water (without using chlorine or other toxic chemicals), the solution may be low in minerals, depending on the method used. What can be used to remineralize your water?

There are many brands of ionic minerals (sometimes called *colloidal minerals*) on the market, small amounts of which are mixed into large quantities of water. The best quality products contain minerals that are not only found in large amounts (such as magnesium), but also trace amounts. Trace minerals, although required in minute amounts by the body, are essential for cellular function and overall health.

Some liquid mineral preparations also contain *fulvic acid*, a fluid created by beneficial bacteria that live at the roots of plants. Fulvic acid dissolves soil minerals and converts them into their simplest ionic forms. This makes the minerals more bioavailable, easily entering the

cells of plants, animals and humans. Hence, fulvic acid's reputation for increasing oxygen absorption, decreasing systemic acidity, improving enzyme activity, stimulating immune function, and assisting in carbohydrate and protein metabolism. The ancient Ayurvedic medicine system from India offers a tarry, gooey preparation called *shilajit*, which has been used for centuries to improve health. It contains large amounts of fulvic acid.

Willard's Water is a safe and non-corrosive fluid added to regular water. It contains sodium metasilicate, calcium chloride, magnesium sulfate, sulfated castor oil, and soluble lignite. These ingredients slightly change the angles in the water molecules, giving the solution a lower surface tension and making it "wetter." With an alkaline pH of about 8.7, Willard's Water stimulates plant growth and helps restore tissue function in humans and animals. For those who enjoy electronics, the Cell Wellbeing Hydration App, downloadable onto an ordinary cell phone, produces a similarly clustered water that makes drinks taste better. (Details on both are in Appendix A.) Clustering and minerals accompany each other in restored water.

It can take some time to heal from the effects of electrolyte starvation. *If you do decide to distill your water, make sure to liberally supplement your diet with minerals*, many of which may be more bioavailable as liquid electrolyte formulas than as capsules. The most "alive" water moves swiftly over rocks and receives at least some sun, so you can emulate this process. Energize your water

by pouring in liquid minerals, placing the container in the sun for at least an hour, and then shaking the container. The shaking helps restore the electrical charge, especially if it makes the mineral particles smaller. Once the water is saturated with organic minerals, light and movement, it's no longer de-natured (distilled), but revitalized with the qualities of living water. You can use this technique to benefit other types of water as well. Sunlight, movement and electrical charge never hurts!

Incidentally, water from different locations is different not only in function but also structure. See Sidebar, "The Structure of Water."

How Much and How Often?

Many people don't drink enough water. Susan Kleiner, who is considered an expert on water, writes:

A portion of the population may be chronically mildly dehydrated. . . . Dehydration of as little as 2% loss of body weight results in impaired physiological and performance responses. . . .

Early signs of dehydration include headache, fatigue, loss of appetite, flushed skin, heat intolerance, light-headedness, dry mouth and eyes, burning sensation in the stomach, and dark urine with a strong odor. Signs of more advanced, severe dehydration include difficulty swallowing,

The Structure of Water

Does structure relate to function, as many natural scientists assert? Japanese photographer Masaru Emoto decided to find out if this were true of water. He wrote: "The Earth is called the 'Water Planet' and about 70% of its surface is covered in water," just as human beings consist of about 70% water. "If water is contaminated, all creatures would be denied . . . existence. Considering these environmental situations, I continued to seek a way to clearly evaluate water. . . . What is the difference in the information that each kind of water holds?"²⁵

Knowing that snow crystals always form lovely, symmetrical, and quite elaborate embellished hexagon shapes, he took water from different locations, froze individual drops, and then—at a specific melting point similar to the temperature under which snowflakes form—photographed the crystals through a microscope. The result is a fascinating book, *The Message from Water*, which shows the reader photographic proof that the molecular structure of water is determined by its source and treatment.

Emoto obtained water samples from all over the world. These included Japanese mountain streams, a New Zealand glacier, the London municipal water supply, tap water from the northwestern United States, and a French fountain in Lourdes known for its healing properties. Water from scenic, tranquil locations always had perfectly symmetrical, beautiful, crystalline designs. Their colors were generally white or gold, and they were always bright. Moreover, their six-sided shapes were embellished with elaborate branches—some of them feathery, some more bold. Polluted industrial water, water from pipes and storage dams, and stagnant water always exhibited chaotically formed, ugly, misshapen structures. Their colors were dark brown and gray, and they were always dull.

Living water is geometrically balanced, with correspondingly balancing effects on the body. Contaminated water is geometrically *imbalanced*, with *unbalancing* effects on the body. Interestingly, although distilled water is not contaminated, its pattern still differs markedly compared to all the other uncontaminated waters tested. Distilled has the most simplistic pattern, consisting of an unembellished, straight line hexagon without any lovely symmetrical branches. It's as though the hydrogen and oxygen are missing something (which they are): minerals!

clumsiness, shriveled skin, sunken eyes and dim vision, painful urination, numb skin, muscle spasms, and delirium. . . . New research indicates that fluid consumption in general and water consumption in particular can have an effect on the risk of urinary stone disease; cancers of the breast, colon, and urinary tract; childhood and adolescent obesity; mitral valve prolapse; salivary gland function; and overall health in the elderly.²⁶

The health conditions that can result from dehydration are not surprising, considering the role that water plays in the body. Water is so important that the late medical doctor Fereydoon Batmanghelidj (bat'-man-ge'-lij) wrote *Your Body's Many Cries for Water*, a well-documented book devoted entirely to the topic. The idea for the book began during a politically-motivated incarceration in the Middle East, where Dr. Batmanghelidj was the only one present to provide medical services to his fellow prisoners. With no medical supplies available to him, he had only plain water to treat a man suffering from ulcers. Not knowing what else to do, Batmanghelidj administered the fluid in systematically timed, very small amounts. To his great surprise, the man's pain completely vanished. This inspired Batmanghelidj to investigate the healing properties of ordinary water—which for him, was from the tap.

Dr. Batmanghelidj's advocacy of tap water caused great confusion with many American readers, whose experience with municipal (tap) water is a toxic brew of chlorine and other chemicals. When I telephoned the doctor's office to inquire about this, his wife explained to me that Dr. "Batman," as most people affectionately called him, defined "tap" water as clean and drinkable, free of contaminants and apparently full of ionic minerals—the kind of water he grew up with in his native country. Mrs. "Batman" also volunteered that the doctor felt that the US government had failed in what he saw as its mission: to cherish and protect our water, which is every person's right to enjoy.

Knowing that the municipal tap water of which Batmanghelidj spoke was clean and mineralized, we can understand why he repeatedly stated that plain tap water is quite sufficient to induce the many remarkable recoveries from illness that he observed over the years. Nearly all of

the symptoms we regard as disease—symptoms that are diverse, numerous, and localized differently according to who is experiencing them—are the body's normal responses, Dr. Batmanghelidj asserted, to *dehydration*. When the body lacks sufficient water for its many vital functions, a kind of "drought management" takes place: *histamine*, a neurotransmitter, allocates water to those systems that need it the most. Because digestion is a primary life-sustaining function and can only occur with adequate saliva, the mouth is one of the last places in the

body to be deprived of water. (The digestion of starch and sugar begins in the mouth, and we additionally need saliva to swallow the food.) Thus, the dry mouth ordinarily associated with the need to drink is actually the *last* indication of dehydration.

Histamine is also responsible for directly or indirectly producing the bodily responses and sensations we call illness: sinusitis, asthma, allergies, and even chronic pain. These sensations indicate that certain

areas of the body have been deprived of needed water because the small amount of water that *is* present is needed for other, more vital functions. Batmanghelidj gave convincing proof that dehydration is also heavily implicated in colitis, diabetes, hiatal hernia, high blood pressure, and other illnesses. The list seems endless.

Initially, Batmanghelidj was either ostracized or ignored by most of his colleagues. However, he received notes from people all over the world thanking him for helping them restore their health through this simple but vital practice. Dr. Batmanghelidj sold only books. He never advocated or sold drugs, supplements, or bottled water. Mrs. "Batman" continues his work today.

Not all health specialists agree that drinking water is essential. Some believe that we should "eat" our water in the form of 70% high-water-content foods—in other words, a diet consisting largely of fruits and vegetables. However, not everyone can consume enough high water-content produce to meet their daily water consumption requirements. Even if processed, concentrated and dried foods are avoided, people who are ill or partly dehydrated may be too debilitated for the body to easily extract the badly needed water from food.

How much water, then, should one drink? Opinions vary. One recommendation is six to eight glasses of water per day; more if there's strenuous activity, high

Just A Few Signs of Insufficient Water Intake

- ◆ Thirst
- ◆ Hunger, even after having recently eaten
- ◆ Allergies to foods and other substances
- ◆ Fatigue
- ◆ Mood swings, confusion and anxiety
- ◆ Pain in back and joints
- ◆ Skin dryness or wrinkles
- ◆ Digestive disorders, including constipation
- ◆ Infrequent and/or dark colored urine
- ◆ Infections

temperatures, or a diet heavy in salt. Another guideline is one fluid ounce for every two pounds of body weight. This would make two quarts sufficient for a person weighing 128 pounds, 2½ quarts for someone weighing 160 pounds, and so on. But this formula may not work for people weighing more than 200 pounds, as even the healthiest person can die of a mineral salt (electrolyte) imbalance. To compensate for the danger of overly diluting the body's electrolytes, Batmanghelidj had advised replenishing the mineral salts daily lost through urination. (The type of

salt is important; see Sidebar, “Real Salt—More Than Just Sodium Chloride.”)

A European woman once asked me why Americans drink “so much” water. This is probably due to the overemphasis, in the typical diet, on concentrated, carbohydrate-rich foods such as bakery products and chips, and the scarcity of high water content vegetables and fruit. The omission of fresh produce creates the need to drink more (although someone who's sick shouldn't be eating chips and similar foods anyway). Most health practitioners

Real Salt—More Than Just Sodium Chloride

In March 1930, lawyer, peace activist, philosopher, and future Nobel Prizewinner Mahatma Gandhi led a 239-mile (385-kilometer) march across India to protest the British tax on salt. The non-violent resistance leader and other marchers were brutally beaten and arrested by the police. Eventually, the protesters helped to eliminate the tax on salt as well as secure India's independence from the British.

Why did the protestors risk physical injury and worse? It wasn't just for national independence. They recognized the value of salt. Salt is critical for life. It assists in brain development. It aids digestion: the chloride in sodium chloride is used by the body to make hydrochloric acid, needed for protein utilization. Salt helps overcome adrenal exhaustion. It allows nutrients to enter the cells and waste materials to leave. Sea water is almost identical in composition to that of human blood. From the beginning of history, humans have instinctively gravitated toward a food that contains all of the minerals in the body. No civilization can develop without salt.

What passes for salt almost everywhere is adulterated. Real salt grows in a crystal shape, sometimes as large as one millimeter. The crystalline particles harvested from the sea contain almost one hundred trace minerals, including calcium, boron, magnesium, gallium, germanium, gold, lithium, manganese, molybdenum, potassium, selenium, silicon, silver, sulfur, vanadium, and zinc. When trace minerals exist in sufficient quantities, the relatively large amounts of chloride and sodium in a salt crystal are beneficial. In *Seasalt's Hidden Powers*, Jacques de Langre explains how commercially processed salt is stripped of its valuable trace minerals:

Because table salt comes from the same batch as vacuum-refined industrial salt, it is treated with caustic soda or lime to remove all traces of magnesium salts. These vital magnesium salts are taken out because they keep the salt from flowing out of the dispenser spout. . . . [This practice brings] more profits [to] the chemical market. Yet these magnesium salts . . . fill important biological and therapeutic roles. Further, to prevent any moisture from being reabsorbed, salt refiners now add alumino-silicate of sodium or yellow prussiate of soda as dessicants, plus different bleaches to the final salt formula. But since table salt, chemically treated in this way, will no longer combine with human body fluids, it invariably causes severe problems of edema (water retention) and several other health disturbances.²⁷

The dictionary defines *prussiate* as “a salt of prussic acid; cyanide.”²⁸ It's shocking that a recognized poison can be so cavalierly added to one of our most common foods.

Even if salt is not contaminated by toxic foreign chemicals, the processing (refining) alone renders it useless because it's stripped of valuable minerals. This includes industrial salt, presumably edible grocery store salt, and even most “sea salt” sold in health food stores. Any salt that's dried by intense heat and then re-crystallized, has no vitality or nutritive value. Ironically, people who work for commercial salt companies are very proud of the “purity” of their denatured salt. They don't understand that denatured salt is not a real food.

When salt is isolated from its matrix, the body instinctively knows that something is missing. This explains why it's easy to binge on an entire bag of salted potato chips, pretzels or corn chips. It's not only the carbohydrates that are addictive. So is the incomplete salt: we seek the minerals that were removed during processing. Continuing to eat ordinary commercial salt causes even greater mineral depletion, which then creates more cravings.

Our fondness for salt is a normal biological need. (Note that animals in nature gravitate toward salt deposits to lick them.) What is abnormal is the white synthetic crystals that the commercial food industry promotes as real. Denatured salt has been linked to a number of diseases, including high blood pressure and heart attacks. Several salts are now on the market in their unaltered crystalline form. Some favorites are Celtic sea salt from France (which closely matches the body's mineral content), and pink salt from Hawaii and the Himalayas.

agree that drinking water each day is important, separate from the increased needs that the use of Rife Therapy creates. Of course, one shouldn't consume too much water, too quickly.

The problem with any guidelines is that they don't always pertain to everyone. Just as there is no one-size-fits-all diet (discussed later in the **Food** section), there's no one-size-fits-all requirement for water. For instance, someone with a lethargic lymphatic system does not handle fluid elimination as easily as someone with a more efficient system. Sandra Cabot, an Australian medical doctor and naturopath, classifies individuals who tend to retain water as *lymphatics*:

Fluid retention occurs because the return of blood through the veins in the arms and legs back to the heart is sluggish due to weak valves within the veins and poor muscle tone in the limbs. Fluid also tends to accumulate in the subcutaneous tissues between the skin and the muscle layer because of an inefficient lymphatic system.²⁹

With poorly working lymph channels, not only is water trapped between the tissue cells, but the electrolytes (and also water-soluble vitamins, including B vitamins) become diluted and are present in the wrong ratios to each other. This, in turn, causes even more edema (water retention). (See **Exercise** later in this chapter for more information on the lymphatic system.) Lymph plays such an important role in immune response that its inefficiency makes one more prone to swollen glands, excessive mucus production, allergies, sinusitis, hay fever, bronchitis, and asthma. Thus, it's important to pay careful attention to water intake, especially when rifeing. Sufficient water is required to flush out harmful microbial toxins, but too much fluid can cause bloating. Everyone is different, and will have to determine his or her own comfort and health level. Bloating from water intake may indicate electrolyte imbalance, insufficient nutrition, kidney dysfunction—or, simply an intake of too much water. Adding a liquid electrolyte supplement, plain lemon juice, or good quality salt to your water can help reverse the bloating.

Whether you require a large or small amount of water daily, or an amount in between, consider following Batmanghelidj's guidelines on *how* you drink. The bloodstream can only handle being diluted by about four ounces of water every half hour, as the kidneys immediately filter the excess to maintain the fluid balance of the blood. Therefore, sip water in small amounts—8 ounces per hour as the upper limit, and 4 ounces per half hour as the ideal.

Healthy Additions to Plain Purified Water

Vitamin C

If you want a zippier taste than what liquid electrolytes provide, try Vitamin C. Vitamin C helps eliminate excess fluid, makes the water more absorbable, and protects against infection by strengthening the cell membranes, thus making viruses less able to penetrate. The minimum daily requirement of Vitamin C established by the US government is much too low. The bodies of most mammals can produce Vitamin C, but not humans. We are dependent on external sources for our supply.

Most Vitamin C is sourced from corn, and most corn is genetically modified (discussed later in this chapter); however, some Vitamin C is made from cassava. The Vitamin C Foundation (vitaminfoundation.org) recommends sources of clean ascorbic acid. Some food-based powders contain Vitamin C and bioflavonoids (see **Nutritional Supplements** later in this chapter). An underappreciated source of Vitamin C, with its related bioflavonoids, is rose hips. Rose hips are commonly sold as a tea, but even moderate heating destroys the delicate bioflavonoids. It's better (and more economical) to purchase rosehip powder in bulk, and mix it in room-temperature (not boiling) water to make a delicious beverage. Sprinkled onto food, rosehip powder imparts a wonderful sweet and sour taste to stews and desserts.

Lemon Juice

Freshly squeezed lemon juice is high in Vitamin C and can help eliminate nausea, which you may experience if you're on a detox program. Even more important, advises psychiatrist and electromedicine expert Dr. Steve Haltiwanger, lemon juice raises pH levels that are too low and lowers pH levels that are too high. Lemon also cleans the receptor sites of the cells, allowing them to take in nutrients along with the biochemical messengers (including hormones) that the body produces. Squeeze some lemon juice into your drinking water and drink it within 30 minutes, as its Vitamin C loses potency.

Baking Soda

If you can handle the addition sodium, dissolve half a teaspoon of baking soda (sodium bicarbonate) into a gallon of water to alkalize it. Drink it at least an hour before or two hours after a meal, as you don't want to dilute the stomach acids that are needed for digestion.

Chlorophyll

Produced by green plants, chlorophyll is an excellent blood builder and strengthener. See **Popular Beverages and "Health" Drinks**, next page.

Highlights

Get your water tested every one to two years, both before and after filtration (or purification or electrolysis). This will tell you the source water's quality, how well your unit is working, and if the final water meets your needs. Testing your source water will also help you decide what type of water processing unit to get—or if a wiser choice is to buy spring water. Does your water contain pathogens, chlorine or other chemicals, heavy metals, undissolved minerals, or other contaminants?

Properly mineralized water has a subtle sweet taste, and is very refreshing. Your drinking water needs to contain minerals. If you don't have access to a pristine mountain spring or well, acceptable substitutes are:

- ◆ Distilled water (ideally, that you distill yourself), to which you add an appropriate electrolyte formula. You can also shake it and expose it to sunshine.
- ◆ Water that is first filtered for pathogens, chemicals and other contaminants, and is then mineralized. A good electrolyte formula and Willard's Water add minerals and also raise the ORP of the water. Fresh squeezed lemon juice is always a good choice.
- ◆ The water you drink may make the difference between poor health and vitality. *If you are rifting, it's very important to replenish your mineral supply.* The body uses up a lot of minerals when you are detoxifying and eliminating pathogens. This is addressed in more detail in Chapter 4.

POPULAR BEVERAGES AND "HEALTH" DRINKS

People who are ill often ask if coffee, tea, soda, conventionally prepared commercial milk (which is homogenized and pasteurized), hot cocoa, chocolate milk, or fruit juice are comparable to properly mineralized water. They are not! In most cases, these drinks require more nutrients for their assimilation than they give to the body. They also cause dehydration, as they force the body to use its precious water stores to eliminate the wastes they contain and produce. Don't forget that accumulated waste provides a fertile breeding ground for harmful microorganisms. Waste also encourage tissues to degrade. If you are used to drinking lots of coffee, soda or fruit juice, might this be what has sapped your vitality in the first place?

Coffee

Coffee is the most popular beverage on the planet worldwide, amassing \$30 billion a year in sales. What we call the coffee "bean" is actually the seed of a fruit that grows on several species of tropical evergreen trees. The flesh of the fruit is discarded, but the bean is dried, roasted, ground, and brewed into a beverage. Depending on the source, statistics vary somewhat on how many in the US drink coffee, but even the lowest statistics are high. According to July 2006 figures from the National Coffee Association, more than three out of four adult Americans drink coffee regularly or daily. In both 2000 and 2014, figures for the average coffee consumption in the United States have remained a steady 3.1 cups per day, the average size cup measuring 8 ounces or larger. The most recent figures state that 54% of Americans over the age of 18 drink coffee daily. The beverage has a unique, aromatic scent that many find intoxicatingly pleasing, although even some committed coffee aficionados admit that it smells better than it tastes.

Recently, a heated debate has emerged regarding the dangers vs. benefits of coffee. I'll first present the negative data—because not only is it abundant, in my opinion it may have less bias than the positive reports.

Coffee is regarded as an addiction because of its caffeine content. Many people cannot wake up and greet their day without having at least one cup. A so-called moderate coffee drinker is estimated to ingest between 300 and 400 mg of caffeine daily. Caffeine is a legal drug that can harm, and even irreparably damage, the nervous system and adrenal glands. Most people don't know that as we age, the adrenals take over functions previously performed by the sex glands, including the production of various hormones—DHEA, estrogen, pregnenolone, progesterone, and testosterone. It is known, however, that the adrenals are connected to the fight-or-flight response. Let us examine coffee's disruption of this response.

Normally, the adrenal glands secrete hormones in an emergency. To give an oversimplified summary, adrenaline is released during acute (sudden-onset, short-term) stress and cortisol is released during chronic (long-term) stress. When the danger has passed—that is, when there is no longer a reason to fight or flee—the adrenals stop secreting the hormones. But caffeine interferes with adrenal function by causing the *continual* production of cortisol. This elevates the heart rate, raises blood pressure, and abnormally increases respiration. Excess cortisol also causes fat to gravitate to the belly and the neighboring internal organs.

Caffeine influences blood sugar levels by exerting a "domino effect" on not only the adrenals, but also other

organs and glands involved in sugar regulation. The adrenals hormonally signal the liver to release its supply of stored sugar (glycogen) into the bloodstream. In response to this sudden rapid rise in glucose, the pancreas quickly releases insulin to drive the sugar out of the bloodstream and into the tissues. This causes blood glucose levels to drop from too high to too low. Over time, both the pancreas and adrenals become exhausted from these constant, abnormally rapid switches. Tired glands are a huge contributing factor in permanent diabetes and hypoglycemia.

Although the unremitting stimulation from caffeine can exhaust the adrenals to the point of becoming dysfunctional, one might not feel exhausted immediately. On the contrary, many people feel that drinking coffee gives them a much-needed lift. But this stimulation is artificial, due to the temporary rise in blood sugar. Once the blood sugar drops to dangerously low levels, the underlying fatigue is felt. Attempting to recoup waning energy, the person drinks another cup—and the cycle starts all over again. It's no accident that pastries, bread, rolls, cakes and pies are the favorite accompaniment of coffee. Unfortunately, the high amounts of sugar and starch in these foods stress the pancreas even more. This is why many coffee drinkers gain weight. The metabolism-stimulating effect of coffee increases appetite and cravings for sugars and carbohydrates. Any glucose not utilized by the cells at a given time is stored as fat.

Kidney function is also affected. Normally, when urine passes through the kidneys to be filtered, the kidneys recycle minerals that are still needed by the body. But coffee forces the kidneys to excrete vital calcium, iron, magnesium, potassium, and trace minerals—which eventually creates deficiencies in these minerals. Caffeine breaks down into uric acid in the body, which can eventually cause kidney stones and gout.

Caffeine prevents the pineal gland in the brain from producing its sleep-inducing hormone *melatonin*, which is why coffee drinkers may suffer from insomnia. Caffeine inhibits the enzymes used to form memory, eventually causing a loss of memory. And caffeine can cause abnormal DNA by inhibiting the mechanism that repairs it.

Some effects of caffeine are gender-specific. In women, it can aggravate or cause premenstrual syndrome (PMS), menopausal symptoms, and even breast cancer, as well as induce higher rates of miscarriage and infertility. During pregnancy, caffeine crosses the placental barrier. Because fetuses do not have the ability to detoxify caffeine, babies born of women who drink as few as 2 cups a day tend to have lower birth weights, more deformities including cleft palates, heart malfunction, and neurological damage. If the mother nurses, she transmits caffeine and all the other

compounds in coffee to the baby through her breast milk. In men, the irritating caffeine can aggravate prostate problems and urinary tract infections. Both men and women who drink coffee are more prone to osteoporosis.

Besides caffeine, coffee contains more than 208 other acids, all of which bring the pH of the brew to about 5.0 (which is acid; neutral is 7.0). Thus, in some ways, drinking coffee has similar effects as drinking acidic water. The extra burden of acids on the body can cause indigestion and directly contribute to arthritis, rheumatism, and skin disorders.

No one questions that coffee is addictive. Most people who try to quit suffer from headaches, elevated blood pressure, stomach problems, irritability, or other symptoms. Incongruously, some people don't appear to be sensitive to caffeine. They can drink coffee before bedtime and still sleep. However, this may indicate an advanced state of adrenal exhaustion, which ultimately means less resistance to stress and greater susceptibility to illness.

"Decaffeinated" coffee is a misnomer. Decaf still contains 3% caffeine, which is enough to stress your system and cause damage.

One source recommends not to make coffee part of your diet if you suffer from any of the following:

- ◆ Acid indigestion
- ◆ Anxiety, irritability and nervousness
- ◆ *Candida* or yeast problems
- ◆ Colitis, diverticulitis, diarrhea, and other irritable bowel symptoms
- ◆ Chronic fatigue syndrome
- ◆ Autoimmune disorders
- ◆ Diabetes or hypoglycemia
- ◆ Dizziness or tinnitus (ringing in the ears)
- ◆ Gout (elevated uric acid levels)
- ◆ Heart disease or heart palpitations
- ◆ High blood pressure
- ◆ High cholesterol
- ◆ Insomnia and interrupted or poor quality sleep
- ◆ Liver and gallbladder problems, including stones
- ◆ Kidney or bladder problems, including kidney stones
- ◆ Migraines or other vascular headaches
- ◆ Osteoporosis
- ◆ Skin irritations, rashes and dryness

- ◆ Ulcers, heartburn, and stomach problems such as hiatal hernias
- ◆ Urinary tract irritation³⁰

Coffee dehydrates the body. As discussed in the previous section on **Water**, many of the symptoms we regard as illness are the body's response to chronic dehydration. Coffee drinkers also tend to imbibe less water, which compounds the dehydration.

Mastering Leptin discusses the most common signs that you're drinking more coffee than your system can handle: "Caffeine raises blood pressure more than four points [and] contributes to weight gain around the middle . . . This

is because excess sympathetic nerve stimulation causes a numbing effect on fat cells in the abdominal area leading to excess weight gain around the middle. In such situations caffeine is making adrenaline resistance worse."³¹

Despite the massive amount of solid evidence that coffee is harmful in so many ways, positive reports on the brew have recently escalated. One unbelievable claim is that certain compounds in coffee are associated with a decrease in some cancers—which directly contradicts other, more solid evidence that coffee drinkers have a greater risk of developing breast cancer, in part due to the carcinogenic acrylamides formed during roasting (see **Food** later in this chapter.) Another positive report states that caffeine

Coffee as a Pesticide

Federal scientists have discovered that the same chemical that provides the pick-me-up in a cup of java is a deadly turn-off to snails and slugs. Caffeine renders their food unpalatable. Applied to their soil, the stimulant causes snails and slugs to writhe uncontrollably. At the proper dose, these mollusks succumb to the neurotoxin fairly quickly. . . .

Earl Campbell, now with the US Fish and Wildlife Service, and his [Agricultural Research Service] colleagues stumbled on this anti-slug measure while looking for a pesticide to eradicate noisy frogs [in Hawaii]. . . . The species *Eleutherodactylus coqui* has become especially vexing. Its mating calls, which can go on all night—and year-round in low-lying areas—reach 90 decibels, the volume of barking dogs and vacuum cleaners. . . .

After working their way through soaps, surfactants, and off-the-shelf pesticides—all without antifrog effects—Campbell's group started to evaluate products in the grocery store, including acetaminophen (Tylenol®) and cigarette nicotine. "We had very poor results with almost all of these," Campbell told Science News Online. Finally, his team tried a caffeine-rich anti-sleep preparation. . . . It was during early evaluation of caffeine's potential that the researchers applied a dilute concentration of the compound to the soil in greenhouses where many frogs were holed up. At once, Campbell noticed that slugs began surfacing and dying.

That interested [Robert G.] Hollingsworth, an entomologist studying pests of ornamental plants. . . . Small snails have proven a bane to orchid growers [because they] . . . chew away at roots. . . . Hollingsworth launched tests of various concentrations of dilute caffeine against those orchid snails . . . and that local garden denizen, the two-striped slug. . . . The tests showed . . . [that] caffeine makes a good all-natural pesticide. . . .

A 4-ounce solution of 2% caffeine applied to the soil of 4-inch greenhouse pots devastated garden slugs, Hollingsworth found. Within 3.5 hours, 75% of the slugs emerged from hiding in the soil. Within 2 days, 92% of the slugs were dead. When the researchers dropped the concentration of caffeine by half, it took another day to achieve the same body count. When they halved the caffeine level yet again, the kill rate dropped to 55% and the time to death extended to 5 days.

Even concentrations of only 0.1% caffeine may prove useful. Sprayed onto such slug-prized cuisine as cabbage leaves, those concentrations deterred feeding by 62% . . . when compared to uncaffeinated salad greens. This suggests that a regular spray of leftover coffee . . . might control nighttime crop losses in the garden.

Eighteen years ago, Harvard Medical School scientist James Nathanson reported finding that caterpillars would actively avoid eating garden leaves sprayed with caffeine. . . . "The mucus [on the outside of slugs and snails], which is the basis for their locomotion, is very high in water content," . . . [Hollingsworth] observes, and it permits water-soluble caffeine easy entry. Once inside the critters, the new Hawaiian studies show, the neurotoxic caffeine destabilizes the mollusks' heart rate. . . .

According to the 2001 opus *The World of Caffeine* by Bennett A. Weinberg and Bonnie K. Bealer, . . . exploitation of this natural poison comes at a price because "the very drug that helps [plants] destroy their enemies ultimately kills them as well." With coffee, for instance, as branches, leaves, and berries fall to the ground, caffeine leaches out of this litter, eventually enriching soil caffeine concentrations to a point where they become toxic to the parent plant. This is one reason that the productivity of coffee plantations tends to wane with time.

—excerpted from Janet Raloff, "Slugging It Out with Caffeine"
Science News Online, week of June 29, 2002

The Best Coffee Substitute Ever

Chicory may look like scraggly lettuce, but it's an amazing plant. Not only are the leaves nutritious, but the brewed roasted roots taste like coffee, with a robust, satisfying flavor and rich, creamy mouth feel. Research shows that chicory nourishes the liver and increases the flow of bile, thus improving fat digestion. Chicory also purifies the blood, is high in antioxidants, and has anti-inflammatory effects. It even improves insulin uptake in the cells, which balances and regulates blood sugar levels.

Brew as you would regular coffee, using an ordinary coffee maker or a French press.

triggers the brain to release a chemical that induces brain stem cells to transform into new nerve cells. If this data is true, it may explain reports that moderate coffee drinkers have lower rates of Alzheimer's and Parkinson's Disease than abstainers (or a delay in the onset of those conditions). This could also account for reports that coffee promotes anti-aging effects on the brain.

Another widely publicized benefit of coffee pertains to its bioflavonoid content. Among other functions, bioflavonoids help strengthen blood vessel walls, scavenge free radicals, protect collagen, prevent inflammation, and reduce stress and improve mood by helping the body produce vital neurotransmitters. As bioflavonoids are abundant in fruits (especially citrus), and many vegetables—including broccoli, garlic and spinach—it seems foolish to drink coffee for its bioflavonoids when other, better options are available. Also, pro-coffee studies don't mention what form of coffee is being researched. Bioflavonoids degrade when heated.

Knowing that over half of the scientific reports we read are distorted or fabricated (see Chapter 1), is there even a particle of truth to any of these glowing claims? Under what circumstances might these glowing reports be true? And how do we assess coffee's apparent advantages against the damage? Part of the answer, at least, may depend on the health status of the coffee drinker, as well as on how the coffee bean is grown and harvested: its freshness.

Coffee's freshness is more important than you might think. The beneficial oils in the coffee bean are so fragile, they start to degrade as soon as the bean has been roasted. They further decompose after the beans are ground. The most discerning coffee aficionados buy the beans raw (which are green), roast the beans in a special roaster, grind the beans after removing them from the roaster, and then immediately make the beverage. *This is the only way to ensure that the coffee is fresh.* If the ground coffee is even one day old, the delicate oils have already begun

to turn rancid. This degradation of the volatile oils is not perceived by the average consumer as rancidity, however; people merely assume that coffee is inherently bitter. But truly fresh coffee is not bitter—it's incredibly mild, and possesses many complex and delicious flavors. In fact, it's easy to drink fresh coffee without adding anything else to it, not even sugar. Commercially roasted and ground coffee, which has been sitting on the store shelf for many weeks if not months, is what most people think of as coffee. So what they drink, and perceive of as "normal" coffee, is stale! From a health standpoint, this staleness indicates that the beneficial oils have already deteriorated into toxic compounds.

Until six years ago, in my entire life I drank probably fewer than one hundred cups of coffee. I was never drawn to it—but after buying my own roaster and grinder and drinking the beverage fresh, I was hooked. Beans that had been roasted and ground 24 hours ago were not as good as beans that were roasted and ground within the last 30 minutes. The fresh brew tasted better, was smoother, and even seemed to have uplifting energy. Some say that freshly roasted and ground coffee lasts for two weeks before it begins to degrade, but that was not my experience.

If you do decide to drink coffee, buy organically grown beans, as most coffee is heavily sprayed with toxic pesticides. Make sure that you drink it within one day of roasting and grinding the beans. If you don't want to roast and grind beans every day, store the excess in the freezer, or vacuum seal it to maintain freshness. (The unroasted, raw green beans last for up to two years in the freezer.) Some coffee connoisseurs prefer brewing in a French press without a filter, as even an unbleached filter is said to absorb the antioxidants. And don't add sugar to the brew; this will cause insulin spikes. Finally, if you own a water electrolysis unit, make the coffee with alkaline water set to the highest possible (most alkaline) pH setting. This will offset the negative effects of the acids (remember, coffee has a pH of about 5.0).

Before you decide to drink coffee (or more of it), please note that my fresh coffee story doesn't have a happy ending. It took four years to reverse some of the damage I inflicted on my adrenals, and even then, my recovery was only partial. *Any benefits of coffee pertain only to those who have a strong immune function, a balanced nervous system, and strong adrenals.* The benefits may also be non-existent, depending on how the coffee has been processed. If you suffer from erratic blood sugar levels, adrenal fatigue, or a severe health problem such as Lyme or cancer, drinking even freshly roasted coffee is unwise. You can buy some good-tasting coffee substitutes containing roasted chicory in health food stores and even supermarkets.

Soda

This sweetened, carbonated beverage, also known as a soft drink or soda pop, comes in a huge variety of sizes, colors, flavors and fizz. Soda comprises more than a quarter of all drinks consumed in the United States. The rate of consumption averages around 216 quarts (or 204 liters) per year per person.³² “Kids are heavy consumers of soft drinks, according to the US Department of Agriculture, and they are guzzling soda pop at unprecedented rates,” writes reporter Sally Squires. “Fifty-six percent of 8-year-olds down soft drinks daily, and a third of teenage boys drink at least 3 cans of soda pop per day.”³³

There isn’t one positive thing to say about this synthetic concoction. Many people drink it, so its effects on the body are worth describing in detail.

Soda pop, points out Squires, “provides more added sugar in a typical 2-year-old toddler’s diet than cookies, candies and ice cream combined.”³⁴ That’s a lot of sugar! Two years old is also a young age at which to start the soda pop habit. “Not only are soft drinks widely available everywhere,” Squires adds. “They’re now sold in 60% of all public and private middle schools and high schools nationwide, according to the National Soft Drink Association. A few schools are even giving away soft drinks to students who buy school lunches.”³⁵

Soft drinks contain carbonated water, phosphoric acid, sugar (or a synthetic sweetener sugar substitute), flavorings, preservatives, and often caffeine. Here is a brief summary of the damage caused by these ingredients:

- ◆ *Sugar.* If a caloric sweetener is used, it’s usually either sucrose (table sugar) or high fructose corn syrup. Many people have allergies or sensitivities to corn. In addition, high amounts of fructose stress the liver and cause weight gain (discussed in detail shortly).

Sugar provides a fertile breeding ground for bacteria, which cover the teeth with a film called *plaque*. Plaque disintegrates the tooth enamel, causing holes or cavities that can eat into the nerve-rich soft tissue (dentin). Plaque also lodges between the gums and the teeth, creating pockets of infected material that cause the gums to recede and leave the root of the tooth exposed.

There is abundant scientific data proving that sugar causes obesity. Children who drink soda are almost twice as likely to become obese than those who do not. *Obese* does not merely indicate overweight. An obese person is more than 20% over his or her maximum healthy body weight. Obesity contributes to diabetes and heart attacks. Squires reports that Harvard University researchers “found that schoolchildren who

drank soft drinks consumed almost 200 more calories per day than their counterparts who didn’t down soft drinks. That finding helps support the notion that we don’t compensate well for calories in liquid form.”³⁶

Sugar depletes vitamins and minerals because the body requires abnormally high levels of nutrients to process the sugar. Sugar also acidifies the system. This forces the kidneys to work harder to eliminate the disease-causing wastes.

- ◆ *Phosphoric acid.* The phosphorous in phosphoric acid binds to calcium, thus preventing the body from absorbing it. This calcium deficit manifests in all bone tissue in the body, including the teeth. If you immerse a tooth in cola, you can see it dissolve. The phosphoric acid “begins to dissolve tooth enamel in only 20 minutes,” notes the Ohio Dental Association.³⁷ When bones are depleted of calcium, they become more porous and brittle. Calcium loss from bone affects five times more girls than it does boys, leading to more fractures and breaks. As adults, these girls are much more likely to develop osteoporosis.

Phosphoric acid also causes the aluminum in cans to leach into the liquid. When you drink soda, along with everything that’s supposed to be in the can, you’re guzzling a toxic heavy metal.

Finally, phosphoric acid unbalances the body’s pH. As the name implies, it makes the body much more acidic. As with sugar, this forces the kidneys to work harder.

- ◆ *Caffeine.* Not all cola drinks contain caffeine, but many do. A 12-ounce can of typical cola can contain from 35 to 38 mg of caffeine. This is roughly 28% of the amount of caffeine contained in an 8-ounce cup of coffee. “Few know that *diet colas*—usually chosen by those who are trying to dodge calories and/or sugar—*often pack a lot more caffeine*,” points out Squires. [original emphasis]³⁸ Just one example she gives is 42 mg of caffeine for a 12-ounce can of Diet Coke®—which is seven times more than that found in the same amount of Coca-Cola Classic®.

The effects of caffeine were covered in the previous pages devoted to coffee. Even though some of the caffeine found in many sodas is naturally derived from kola nuts, it’s still addictive. “Why is this drug, which is known to create physical dependence, added?” Squires asks. “When you are dependent on a drug, you are really upsetting the normal balances of neurochemistry in the brain. The fact that kids have withdrawal signs and symptoms when the caffeine is stopped is a good indication that something has been profoundly disturbed in the brain.”³⁹

The Dangers of Fluoride

One of the biggest scams perpetrated on the public is the notion that fluoride is safe, and that it prevents cavities.

Unlike the natural gas fluorine—or the edible salt calcium-fluoro-phosphate that's derived from foods, can't be dissolved in water and is assimilable by the human body—fluoride is not a natural element. A byproduct of the aluminum and fertilizer industries and a poison, fluoride is more toxic than lead and only slightly less toxic than arsenic. In 1931, after the US Public Health Service discovered that fluoride in water damaged teeth, it called for the removal of fluoride from the air and from water in areas that had been contaminated by industrial pollution. Court actions for personal injury were filed against the polluters, who were also forbidden to dump their waste into the public waterways.

How was this common knowledge suppressed? In 1939, a biochemist on the staff of the Mellon Institute—the same Mellon family that owned Alcoa Aluminum Company—devised a clever plan to unload the toxic waste onto the public at no cost to industry. He claimed that even though some fluoride was bad for the teeth, a tiny amount was beneficial. So he fabricated a study claiming that fluoridated water would prevent dental cavities. Therefore, instead of having to pay to dump all that poisonous waste, the polluting companies were paid for it.

Even so, in September 1943, the *Journal of the American Medical Association* reported that fluoride inhibits key enzyme reactions in a cell by disrupting the shape of the proteins that comprise the enzymes. And in October 1944, the same journal stated that drinking water containing as little as 1.2 ppm (parts per million) of fluoride causes serious conditions: abnormal hardening and densification of bones, degeneration of joints and spinal discs, and goiter (the pathological enlargement of the thyroid gland). Honest data began to be buried when in 1944, an attorney on the payroll of the Aluminum Company of America was appointed as head of the Federal Security Administration. The US Public Health Service, which at that time was a division of the Federal Security Administration, suddenly began promoting fluoridation.

Fluoridation is the practice of adding silicofluorides to water at 1 ppm. Even this tiny dose has devastating effects. Evidence of harm has been proven on every continent, except when results have been deliberately withheld or misinterpreted. Additional research shows that fluoride causes skin rashes, convulsions, blood vessel calcification, gastrointestinal disorders, arthritis, aching bones, bloody vomit, immune malfunction, genetic and birth defects, cell death, infertility, and increases in deaths from liver, bone, and other cancers. Fluoride inactivates 62 enzymes. Moreover, in most cases fluoride *mottles* and *destroys* teeth rather than preserves them. Fluoride does cause the enamel to become harder, but it also erodes it by interfering with calcium absorption, causing a condition

known as *fluorosis*. This can affect the entire skeleton, which is why at least fourteen Nobel Prize winners in chemistry and medicine, and no fewer than 1,500 scientists at the US Environmental Protection Agency, have opposed the fluoridation of our drinking water.

The legal classifications of fluoride are revealing.

- ◆ According to the EPA, sodium fluoride is the second most dangerous class of pesticide. The FDA has never approved fluoride supplementation as safe or effective.
- ◆ In the United Kingdom, silicofluorides are a class 2 poison under the Poisons Act, and are illegal.
- ◆ The European Union has banned fluoridation due to the health risks. Ninety-eight percent of Western Europe is now fluoride-free, with no rise in tooth decay.
- ◆ Most developed nations do not fluoridate the majority of their water supply. But in the US, 67.1% of the population receives fluoridated water.

Fluoride affects mental function due to its narcotic effects on some regions of the brain. World War II Allied soldiers who liberated the concentration camps found stockpiles of fluoride near the water supplies. In 1954, chemist Charles E. Perkins wrote that a German chemist once prominent in the Nazi movement informed him that the Nazis had added fluoride to the prisoners' drinking water to make them more docile and easy to manipulate. Perkins wrote that after nearly 20 years researching the "chemistry, biochemistry, physiology and pathology" of fluoride, he concluded that anyone drinking fluoridated water "for a period of one year or more will never again be the same person mentally or physically."⁴⁰ Over 300 scientific studies—including one from Harvard School of Public Health—show that fluoride causes brain damage, dementia, reduced cognitive function, and lowered IQ. These studies are listed at fluoridealert.org/issues/health/brain. Note that one form of fluoride, fluoxetine hydrochloride, is a main ingredient in Prozac®.

By law, all toothpaste containing fluoride must warn the consumer to seek medical help or contact a poison control center immediately if more toothpaste than is "normally" used for brushing is accidentally swallowed. A director of research and development for oral and personal care products was once quoted as saying, "When I receive the fluoride here, it has a skull-and-[cross]bones on it"⁴¹—the graphic symbol for "poison." At one time, sodium fluoride was used to kill rats; hence, its classification by the EPA as a pesticide.

Tooth decay is not due to a rat poison deficiency, but a scarcity of nutrients—calcium, phosphorus, zinc, Vitamin D3. Yet fluoride continues to be put into our foods, beverages, medicines, dental products, and water. Are fluoridation proponents now too brain damaged to understand (or care) what has happened to them?

- ◆ *Artificial Sweeteners.* Not all cola drinks contain artificial sweeteners, but “diet” sodas do. Many people who consume these drinks believe that because they contain non-caloric artificial sweeteners, they are healthier than sugary sodas. This isn’t true. The most popular synthetic sweeteners are aspartame and sucralose, and sometimes saccharin. Saccharin is a proven carcinogen, as are aspartame and sucralose, which also inflict extensive, sometimes permanent damage to the liver, muscles, nervous system, and brain. The politics and some negative health effects of aspartame were discussed in Chapter 1. More details on the health hazards of aspartame and sucralose will be discussed later in this **Food** section.

One more thing. The sugar (or synthetic sweetening chemicals), flavorings, and phosphoric acid require massive amounts of water to flush them out of the body. Soda pop users are often dehydrated, as they don’t drink enough water. If you’re rifing, you need lots of water to dilute the poisons from devitalized pathogens. Why drink soda at all?

Black and Green Tea

The popularity of tea as a beverage dates back thousands of years to the Orient. According to legend, a Chinese emperor (who was also a renowned herbalist) sat beneath a tree while his servant boiled drinking water. Some leaves from the tree blew into the pot, the man tried the infusion, and the drink we call “tea” was born. This drink is so prized, that leaves have been found in ancient tombs.

Technically, tea refers to one specific plant called *Camellia sinensis*. The green leaves are steamed to prevent them from degrading. Black tea is simply green tea whose leaves have been left to oxidize (break down) and ferment. The fermentation process used on the leaves destroys the delicate bioflavonoids and other beneficial components to such an extent that for some people, black tea can cause more damage to the kidneys than even coffee. Like coffee and soda, black tea dehydrates the system.

In both holistic circles and the mainstream press, green tea is touted for its high bioflavonoid and antioxidant content. Independently, both substances can help prevent cancer and other diseases; but in green tea, especially if it’s drunk on a long-term basis, there may be problems. Tea leaves contain caffeine and other volatile oils. Caffeine causes mineral depletion because it acts as a diuretic, forcing too much liquid at once through the kidneys. The second disadvantage is the natural tendency of the *Camellia sinensis* plant to accumulate the toxic metal fluoride. If the plant is growing in an area with heavy air and soil pollution, fluoride will be present in even

larger amounts than usual. Fluoride is so well known for impairing the thyroid gland’s ability to secrete thyroid hormone that it was once routinely administered in cases of hyperthyroidism (abnormal hyperactivity of the thyroid)! A cup of green tea contains an average of 7.8 mg of fluoride—much higher than the amounts once given as medication to treat hyperthyroidism. (See Insert, “The Dangers of Fluoride.”)

Green tea may still have a place in the diet, however. Fluoride levels in the tea were undoubtedly lower before modern pollution. Also, green tea may not have been as dangerous long ago because in the Orient it was sipped rather than gulped. Finally, the traditional Oriental diet consists of fish and seaweed, whose high iodine levels help protect the thyroid. Therefore, if you drink green tea, make sure it’s organic, don’t overdo the amount, and increase your iodine intake.

High-Sugar Vegetable and Fruit Juices

Fruits have many beneficial properties. Black cherries are anti-inflammatory, and are successfully used to help eliminate gout. Blueberries and other berries are high in antioxidants. However, fruit’s high fructose content (even though it’s naturally occurring) stimulates the reproduction of sugar-hungry pathogens—thus increasing toxic waste levels in the body. Thus, for people with infections, a fruit’s benefits may be eclipsed by fructose.

If fruit is questionable for a sick person’s diet, imagine the effects of fruit *juice*. It takes much more fruit to make a single glass of juice than what one could possibly ingest in one sitting, because juice doesn’t contain fiber. Without fiber in the stomach to act as a buffer for all that extra sugar, the fructose rapidly enters the bloodstream and causes insulin spikes. (Later I discuss the damage to the liver caused by fructose.) Fruit’s high sugar content explains why people with severe infections often get worse when they drink fruit juice.

Carrot, which is a root vegetable, contains as much sugar as fruit. Pathogens appear to thrive on carrot sugar the same way they thrive on the fructose in an apple or melon. However, many people have found that the antioxidants and some other, unknown compounds in carrots have made carrot juice indispensable for eliminating cancer. The most successful cancer protocols require very high amounts of carrot juice. Three pounds of juiced carrots per day may not yield results, but five pounds will.

Greens contain high amounts of nutrients without the destructive sugars. By using mostly greens for your juice, you’ll still obtain valuable vitamins, minerals and enzymes without encouraging the proliferation of pathogens.

The Healing Properties of Green Grasses

To many people, “green grass” means the rolling lawns of their favorite golf course or the stuff that causes allergies, wheezing and runny noses in the springtime. However, the right kinds of grass can be healing if they’re in juice or powdered juice form. Wheat and barley are usually used. Their grains cause health problems due to their gluten content, but the young green shoots do not—as long as they’re juiced before they’re 11 or 12 days old, before the grass splits into two blades and begins to form a glutinous seed.

The juice from wheatgrass (*Triticum aestivum*) is 70% chlorophyll and has almost the same chemical structure as the hemoglobin in human blood. It contains all the known minerals, and Vitamins A, B-complex, C, E, and K. Wheatgrass is high in protein (17 amino acids) and antioxidants. It builds blood by increasing the oxygen-carrying ability of red blood cells. It improves immune function, removes toxic metals from the tissues, and contains a compound that kills bacteria. And it’s anti-inflammatory. Studies have also shown that wheatgrass binds to carcinogens.

The juice from barley grass (*Hordeum vulgare*) contains abundant chlorophyll, is rich in iron and calcium and ten other minerals, and is high in Vitamins A, B-complex and C. Barley grass also contains every essential amino acid, with 23% high quality digestible protein in each serving. This grass is becoming famous for helping balance blood sugar levels: studies have shown very favorable results for people with diabetes. Barley grass lowers high levels of “bad” cholesterol and raises levels of “good” cholesterol. It improves circulation. It reduces free radical levels due to its antioxidant properties. And it stimulates the growth of friendly intestinal flora and reduces inflammation.

Grasses must be grown and processed correctly. The best wheatgrass is grown outdoors in soil, slowly (including through the winter)—not rapidly indoors in trays under warm lights, which changes its chemical composition, diminishes its nutrients, and often promotes mold growth. However, those who cannot obtain outdoor-grown wheatgrass do benefit from the chlorophyll in tray-grown wheatgrass. If you use powdered rather than fresh grasses, they should not be processed with heat.

Many people believe that any nausea they might feel is the result of detoxification. However, it’s more likely a result of the grass’s sickening sweetness, which is augmented if it has been grown in weeks instead of months. You don’t need to drink much. Most people begin with ½ to 1 teaspoon of powdered grass in 8 ounces of water, gradually increasing the quantity to 2 tablespoons. Alone, grass tastes like—well, grass, but you can add other ingredients to it.

Canned and bottled juices are not nutritionally valuable. Pasteurization (heating) renders juice useless because the high heat kills the enzymes and many important nutrients. Vital enzymes in juice degrade fairly quickly—usually within an hour after the juice is extracted—so the benefits of juicing are lost if you wait. If the juice is fresh squeezed, drink it immediately.

As juicing creates a very concentrated, therapeutic substance, many practitioners agree that one should consume juices only if there is a special need, such as during a serious illness. People who are ill generally suffer from substandard digestion. The advantage to liquid nourishment is its easy absorption by the body.

Green Juices and Green Smoothies

Many holistic practitioners suggest fresh vegetable juice daily during a cleansing or restorative program. Fresh vegetable juice contains valuable enzymes that catalyze all chemical processes in the body, aid digestion, and repair tissue. People who have a difficult time assimilating solid food can help repair their gut, and acquire valuable nutrients at the same time, simply by drinking juice.

Carrot is considered a staple for vegetable juices, but as previously stated, its sugar content may be too high for people who don’t have cancer but suffer from other, severe infections. Cucumber, celery, and parsley are a good base for a vegetable drink.

The grasses of wheat and barley have tremendous healing capabilities (see Sidebar, “The Healing Properties of Green Grasses”). However, juiced greens are so potent that they can cause the liver to detoxify too rapidly and dump its stored toxins into the bloodstream, which causes nausea and even vomiting. For this reason, beet—which is a potent liver and gallbladder cleanser—should also be used in very small amounts. If you cannot obtain fresh juice, powdered young grasses mixed in water are an acceptable substitute. Be aware that not everyone responds well to fasting on juice alone. You can always use juice to supplement a diet of solid food.

If you don’t own a juicer, or have access to a place that sells fresh squeezed vegetable juice, a wonderful substitute is liquid chlorophyll, sold in bottles at the health food store. Chlorophyll can be regarded as the “blood” of a plant. It has an almost identical composition to human blood, with one major difference. Human blood is high in iron, which gives it a red color, and plant chlorophyll is high in magnesium, which gives it a green color. As most people are deficient in magnesium, supplementing the diet with chlorophyll-rich green juice is wise. If you don’t like the taste of chlorophyll, you can find chlorophyll products flavored with mint to make them more palatable.

While vegetable juice is easy to digest and provides the body with valuable nutrients including enzymes, there's another, equally valid way to eat your vegetables raw: by blending them. This produces a fiber-rich drink that Victoria Boutenko, in her book *Green for Life*, calls "green smoothies." Boutenko wrote that fiber binds excess estrogen, escorts debris from the gut, provides food for the friendly intestinal flora, and even possesses anti-cancer properties. In 2014, when health writer Mike Adams (naturalnews.com) reported that his laboratory tests found heavy metals in many foods (both conventional and organic), he also stated that vegetables and fruit fiber binds and escorts the metals from the body. The value of vegetable and fruit fiber cannot be understated.

Celery, peeled cucumber, lettuces, and lemon (including the peel, if it's organic) make an excellent base for any green smoothie. The addition of parsley, avocado, tomato and garlic creates a rich thick soup or sauce, while banana, mango or apple provide a sweeter shake. Green

smoothies give the digestive tract a rest while providing optimum nutrition. For many people, green smoothies may be a better choice than juice without fiber.

Herbal "Teas"

The recent popularity of leaves, roots, berries and bark that impart such wonderful flavors in boiling water has helped wean people off both coffee and tea. The study of herbology requires an entire book, so only a few highlights will be given here.

As mentioned earlier, only the *Camellia sinensis* plant can technically be called "tea." However, the phrase "herbal tea" has become part of everyday word usage. Even some chain restaurants now offer herbal "teas" along with the usual coffee and tea.

People often like these herbs for their effects as well as their flavor. Although some claim that "tea" herbs (such as peppermint, chamomile, hibiscus flowers and

Beware of Vitamin B12 Analogue in Sea Vegetables

An *analogue* is something that's similar, but not identical, to something else. When dealing with chemical compounds, an analogue can be structurally related and even have similar functions, but it cannot replace the original.

Most of us want the real thing, not an analogue. While some analogues may be suitable substitutes, when it comes to vitamins, an analogue can be downright harmful. Take Vitamin B12. A B12 analogue is similar enough to the real vitamin to latch onto the body's receptor sites for B12. However, the analogue doesn't do the job of B12. Ultimately, it will cause Vitamin B12 *starvation* because as long as the receptor sites are being usurped by the phony, the body cannot access the real vitamin.

Doctors have known about this problem for at least three decades. Just two medical journal articles on the topic are: "Vitamin B-12 from algae appears not to be bioavailable."⁴² and "Vitamin B-12 status of long-term adherents of a strict uncooked vegan diet ('living food diet') is compromised."⁴³ Vitamin B12 analogues are contained in most sea vegetables: spirulina, blue-green algae, and dulse. Interestingly, nori appears to be one of the few seaweeds that contains real (not analogue) Vitamin B12 as long as it's eaten raw and not toasted. (It's almost always eaten toasted, however.) Chlorella, a high-chlorophyll microscopic plant related to algae, is rich in enzymes, vitamins, minerals, fatty acids, mucopolysaccharides, nucleic acids (RNA and DNA), and all the amino acids (chlorella is over 50% protein). Unlike other forms of algae, chlorella doesn't appear to contain significant amounts of B12 analogue. (Keep in mind that the biologically compatible form of B12 is the absorbable *methylcobalamin* and not the cheaper *cyanocobalamin*. Cyanocobalamin contains a tiny bit of cyanide, which the body must expend extra energy to remove.)

The daily requirement of B12 for most people is only about 10 micrograms per day (not milligrams, which is one hundred times more). A B12 deficiency can take more than five years to develop, but when it does occur, severe problems arise. Symptoms include fatigue; weakness; cramping, tingling and numbness in the limbs; heart palpitations; breathing difficulties; constipation, diarrhea or loss of appetite; sore tongue; vision loss; and neurological damage including confusion, depression, memory loss, hallucinations, and dizziness. Anemia develops, which is low systemic oxygen levels due to either an abnormally low red blood cell count or not enough oxygen-carrying hemoglobin inside of the red blood cells. It's the insufficient oxygen that produces many of the B12 deficiency symptoms.

While some Vitamin B12 is made by friendly intestinal flora, additional amounts must be obtained from external sources such as food and nutritional supplements. The most efficient delivery system is animal products: muscle meats, eggs, seafood, dairy products, and especially liver. If one's diet is vegetarian, the need for B12 supplementation is mandatory. If seaweed is a regular part of a vegetarian's diet, B12 supplementation may literally save a life.

True B12 in a food may be ineffective if comparable amounts of its analogue are eaten in the same meal. Unfortunately, the two compete and the phony always wins. However, the analogue won't be a problem if you ingest seaweed several hours away from the real thing, either in the form of animal products or a B12 supplement.

Healthy Spice Drink for a Sweet Tooth

- ◆ 12 cinnamon sticks, about 2¾ inches long (do not use powder, or else the drink will be bitter; see note below about cinnamon)
- ◆ ½ heaping teaspoon whole allspice
- ◆ ½ heaping teaspoon whole cloves
- ◆ 1 heaping teaspoon peeled chopped ginger
- ◆ ½ teaspoon hulled cardamom
- ◆ ½ teaspoon whole fenugreek
- ◆ 1½ tablespoons loosely packed shredded Chinese tangerine peel (*Citrus reticulata*), optional
- ◆ ½ teaspoon powdered green stevia leaf, optional
- ◆ 6 quarts water (less if you want a stronger drink)

Directions. Boil water. Add all ingredients except stevia and don't allow water to boil again. Simmer about 45 minutes, or until the tightly curled *cassia* cinnamon bark flattens somewhat or the *verum* cinnamon falls apart. Strain immediately so the drink doesn't become acrid. Refrigerate for up to three days, or keep overnight in a thermos. This drink is good cold or gently reheated. Add stevia powder just before serving.

Collectively, the ingredients balance blood sugar (*cassia*, more so than *verum*), induce sweating, aid digestion, open the sinuses and respiratory tract, dispel excess moisture, warm the body, and improve cognition. They also have antibacterial, antiviral, and antifungal properties.

Important information about cinnamon. If you're planning to drink a lot of this beverage, be aware that there are about a dozen different species of tree known as "cinnamon." True cinnamon, found in Ceylon and known as *Cinnamomum zeylanicum* or *Cinnamomum verum*, is expensive and hard to find. Its bark is soft, layered and very sweet. Its cheaper, readily available cousin, *Cinnamomum cassia*, has hard, more smoothly textured bark, and is a bit less sweet, with a sharpness to its taste. Although all species of cinnamon bark have similar effects, the true cinnamons contain less coumarin than *cassia*. *Coumarins* are naturally occurring plant compounds that have strong anticoagulant properties. This is important to know because normally, when the body is injured, blood coagulates at the injured site (which is what you want). But if you ingest too much coumarin over a long period of time—which will happen if you drink this beverage often and make it with *cassia*—the blood will no longer coagulate easily when you need it to. On the other hand, *cassia*, more successfully than *verum*, appears to inhibit the progression of Alzheimer's. Therefore, it's worth experimenting with both types.

ginger) have no restorative effects and are merely appealing beverages, herbalists (and my personal experience) indicate otherwise. Even modest "tea portions" of various plants offer benefits. For example, peppermint stimulates better digestion and encourages wakefulness. Chamomile calms the nerves and induces sleep. Hibiscus, with its distinctive tangy flavor, contains many compounds—including quercetin (a bioflavonoid), which helps with allergies and circulation. The **Herbs** section later in this chapter addresses what makes an herb medicinal.

Coaxing satisfying and subtle flavors from herbs is an art. For leaves and delicate plant parts, heat the water to just under a boil and then steep the leaves. Don't let the leaves sit in the water for too long; otherwise, they'll become bitter. Dried berries, bark, and especially thick rinds, which contain numerous heavy layers of tough plant cellulose, require a more rigorous approach of boiling for 20 to 40 minutes, and occasionally longer.

Ginger root has a well-deserved reputation for being the most widely used herb on the planet. A favorite with cooks, ginger also relieves colds, allergies, arthritis and asthma, and helps protect the digestive tract and liver from toxins and parasites. It also stimulates digestion and alleviates nausea, making it popular during pregnancy. See Insert of a drink I invented, "Healthy Spice Drink for a Sweet Tooth." It uses ginger as a main ingredient and doesn't contain sugar or fruit. The number of non-caffeinated beverages is limited only by your imagination.

FOOD

One Size Does Not Fit All

Did you ever go shopping for a "one-size-fits-all" bathrobe? If you're 5 feet tall (my height), and if you have a friend who's 6 feet tall (like my business partner), and both of you try to fit into the bathrobe, you'll quickly learn that this claim does not coincide with reality. Yet the public is constantly told that this one-size-fits-all mentality applies to everything, including diet.

No one can dispute that good health depends on eating properly. The problem is, even "experts"—in holistic as well as mainstream medical arenas—disagree as to what constitutes the optimum diet. There are many types: macrobiotic, vegetarian, vegan, raw food, Ayurvedic, high complex carbohydrate, low fat; the list is endless. Have you ever asked yourself why popular diets contradict each other so much? "How can they all be right?" you wonder. "Why does my friend lose weight when she eats certain foods, and I gain weight when I

eat those same things?” Or, “Why does a juice fast make my husband feel great, while I just feel tired?”

Many factors determine the best diet for an individual: genetics, race, cultural practices, body type, season, age, health status, environmental toxin exposure, and belief systems. Of the many factors to consider in planning an optimal diet, a few variations are discussed below.

Geographical Ancestry

In *Nourishing Wisdom: A Mind-Body Approach to Nutrition and Well-Being*, nutritional psychologist Marc David notes that the diets of the Earth’s peoples who “live near mountains, oceans, rivers, deserts, tundra, tropics, forests, and flatlands” are as varied as the terrain that grows their food. “Is it sensible for any one . . . to tell another about the ‘true’ way to eat? Can a tribesman from West Africa whose staple food is cassava root tell an Eskimo he is wrong because his staple food is fish? Or can the Japanese tell the Mexicans of the absurdity of eating dairy, corn, hot peppers, and food fried in lard, staple products completely unknown to native Japan?”⁴⁴

“Following a fad diet or a computer-generated diet will only have limited value,” writes nutritionist Judith DeCava in her whimsically titled article, “Food Fights.” “A ‘one-size-fits-all’ approach to diet and all other universal dietary recommendations overlook the tremendous amount of biochemical and physiological diversity among individuals. . . . While one’s specific ancestral heritage may be of critical importance in ascertaining ideal foods to consume, identifying the diet that will best support one’s health is much more complicated . . . There are simply too many factors that influence nutritional needs. . . . No wonder the diet ‘experts’ are essentially unable to achieve consistent, predictable results with their followers.”⁴⁵

Gut Flora

The assimilation and metabolization of foods is hugely dependent on the flora living in the gut—also known as the *microbiome* population—which is inherited from the mother. The gut houses between 300 and 500 species, whose numbers are twice the amount of cells in that same human body. These flora should be respected: They regulate our cravings, motivation, moods, and even our outlook on life. They also help regulate weight. When a greater variety of flora from skinny mice were implanted in mice who normally become obese, the hefty rodents slimmed down. The opposite held true: slender mice became fat when their microbiome population was altered, due to implants from their fatter counterparts. Humans react the same way. Just one article of many is “Impact of the Gut Microbiota on the Development of Obesity: Current Concepts,”⁴⁶ written in 2012.

Biochemistry and Metabolism

In the last couple of decades, diet books have emerged that are based on some form of biochemical assessment. De Cava points out some of these factors: the individual’s metabolic rate, acid-alkaline balance (it’s more complicated than you might think), and sympathetic or parasympathetic nervous system dominance. When all the unique biochemical aspects of the body are considered, she concludes, people represent at least five thousand variations in biochemistry.

Despite the complexity of human biochemistry, most popular literature is based on simplistic science—if indeed it could be called “science” at all. One book suggests eating food according to endocrine type. Another bases food choices on blood type. Yet a third system, prevalent in books and on the Internet, arranges foods according to their presumably acidifying or alkalizing effects on the body, and teaches that inherently acid or alkaline foods affect the body’s pH correspondingly once they’re ingested. Enthusiastic devotees claim that most people are too “acidic,” and eating so-called alkalizing foods will correct the acidity. The problem is, one’s endocrine or blood type plays just one role of many in ideal diet; and most of the information on food and systemic pH is incorrect. Physician Harold Kristal and co-author James Haig explain variations in metabolism that cause people to be affected in opposite ways when eating the same foods. “Major Tenets of Metabolic Typing,” from their book, is so important that it’s a Sidebar on the next page.

Conventional nutritional wisdom holds that any particular food will have the *same* pH effect in anyone who eats it. Thus it is commonly said that protein foods (especially animal proteins) are generally acid forming, and that fruits and vegetables are generally alkaline forming. But, in the world of Metabolic Typing—where *blood* is being used as the primary pH marker—this would only be true of the two Autonomic types [signifying whether the sympathetic or parasympathetic nervous system is dominant for energy control]. For the two Oxidative types [signifying how rapidly food is converted into energy], the opposite would apply: most animal proteins would be alkaline forming, and most fruits and vegetables would be acid forming. Almost all other nutritionists who work with pHs use urine and/or saliva—not blood—as their primary marker. This is simply for ease of access. . . . [But] urine and saliva [are] much more changeable and, therefore, less reliable as metabolic markers than blood pH. . . .⁴⁷

Major Tenets of Metabolic Typing

- ◆ We are all biochemically unique, with different constitutional and genetically inherited nutrient requirements.
- ◆ People are predisposed to greater or lesser dominance in either the Oxidative system (the conversion of nutrients into energy) or the Autonomic system (the distribution of that energy via the autonomic [involuntary] nervous system).
- ◆ The Oxidative system consists of Fast and Slow Oxidizers (determined by the speed at which they convert nutrients into energy).
- ◆ The Autonomic system consists of Sympathetic and Parasympathetic types (determined by which of the two branches of the autonomic nervous system is more active).
- ◆ There are foods that are bad for everyone (sugar, white flour products, partially hydrogenated oil, deep-fried foods, chemical additives, etc.).
- ◆ There are good foods that are bad for you, as well as good foods that are good for you, depending on your Metabolic Type.
- ◆ Any given nutrient or food can have virtually opposite biochemical effects in individuals of different Metabolic Types.
- ◆ Foods and nutrients that acidify the two Oxidative types (Fast and Slow Oxidizers) alkalize the two Autonomic types (Sympathetics and Parasympathetics); foods and nutrients that alkalize the Oxidative types, acidify the Autonomic types.
- ◆ An ideal venous blood pH of 7.46 reflects the biochemical balance and metabolic efficiency of a balanced metabolism.

—Harold J. Kristal and James M. Haig
*The Nutrition Solution:
 A Guide to Your Metabolic Type*, 2002

Holistic proponents can be as dogmatic about their preferences as allopathic physicians can be about theirs. For example, the late Robert Atkins promoted a high-protein, relatively high fat and low carbohydrate diet. Dean Ornish promotes a high-carbohydrate, low-fat and low-protein diet. During a television debate between the two doctors, the reason for their preferences was revealed. DeCava reports that after they presented clinical evidence and scientific studies,

Dr. Atkins explained how *his* health improved when he began to follow the diet he now advises for everyone. Dr. Ornish then told how *his* health improved when he changed his diet to the one he now urges people to follow. The same is true for most all diet promoters—whether popular authors or clinicians in private practice—the diet that works for him/her is the one thought to be ideal for all.⁴⁸

It's easy to mistake suggestions for dogma. The way in which a diet is implemented by the public can be quite different from the intentions of the original diet. Or, the reasons for which a diet was developed may not apply to the current user. This appears to have occurred with *macrobiotics*, an approach with purported ties to Japanese Zen Buddhism but which was developed and popularized in the 1950s. The basic tenets of macrobiotics are to eat, in moderation, locally grown food that's in season, with minimal animal protein. Most people, even some high-profile macrobiotics advocates, adhere to a one-size-fits-all diet consisting of rice, vegetables, some seaweed and pickled condiments, and a little bit of fish. This approach has many flaws. What normally might constitute a lovely meal is eaten every day, which for some people can cause nutritional deficiencies and lead to illness. The “fresh, locally grown food” rule can vary widely, depending on one's location. The Inuit (Eskimos) who eat seal meat and blubber (fat from sea mammals—in fact, comprising 80% of their diet) are practicing macrobiotics principles, as are residents of Panama who munch on bananas, coconuts and tamarillos picked ripe almost year round.

Traditional Chinese Medicine (TCM) has a distinctly individual approach to diet. A revealing article in the *Journal of Chinese Medicine*, called “Chinese Nutritional Therapy: A Simple Framework For Prescribing Dietary Recommendations,” asks simple questions. The author appeals to common sense rather than fad.

So what is a healthy diet? From the perspective of Chinese dietary therapy there is no simple answer to this important question. Or rather the answer lies in two counter-questions: “A healthy diet for who” and “A healthy diet when?”⁴⁹

No wonder the average reader has such a hard time with well-meaning diet books!

People's physiological differences undoubtedly form the basis of emotionally-laden opinions on what is good or not good to eat. For example, some people cannot handle moderate amounts of even complex carbohydrates. Too many carbs make them feel mentally unfocused, tired and sick, and cause weight gain. They find red meat perfect

for building their strength. Their counterparts, who cannot digest red meat (or cannot emotionally tolerate the idea of eating it) thrive more on grains and vegetables. I have noticed that some very strict vegetarians and vegans sharply criticize others for eating meat, with a level of emotional charge that seems excessive. Could it be that their diet is causing them to suffer nutritional deficiencies—and corresponding emotional angst?

That said, there are some “foods” that aren’t good for anyone: fake foods. Popular diets that recommend eliminating junk, chemicals, and refined carbohydrates inevitably help most people to some extent. This is why so many diet books on the market that advocate real food instead of junk seem to hold the key to your health (until you find that they don’t).

Each individual has a unique biochemistry, needs, and preferences that cannot be addressed by a simplistic one-size-fits-all system. And sometimes, despite our favorite theories, opinions and even preferences, we need to change what we are eating if we want to feel better.

Current Needs and Health Conditions

What helps you during one period of your life may not work for you during another. “Unlike the horse that must have grain or the lion that must have meat, humans can and do switch metabolic needs, often in midstream as they are healing and reaching a new plateau of wellness,” writes DeCava. “Healing bodies have very different requirements from healed bodies.”⁵⁰ Just as with Rife Therapy, when you use frequencies for *Candida* one day and *Staph* the next—and on some days you don’t do sessions at all—you may find it wise to similarly experiment with your food.

What your ancestors ate can play a major role in what you are evolutionarily designed to eat. However, this guideline can—and should—be modified if your lifestyle is radically different from that of your forebears. For instance, a century ago the people who were farmers needed high-calorie diets high in meat, fat and starch to sustain them for heavy manual labor. Today, more people sit at desk jobs than work in the fields. Such a diet would not only be unsuitable, but would in fact be harmful. Our needs change according to circumstance and location.

Buildup, Breakdown or Maintenance

One interesting dietary paradigm describes the way in which a food affects the system. It either builds up the body, helps the system cleanse and detoxify, or maintains the body. While these effects can vary because people differ in how they metabolize and assimilate, a food will still tend to exhibit one (and sometimes two) of these three functions.

Problems arise if a food’s benefits are not compatible with what your body needs at the moment. This frequently occurs when people eat certain foods to eliminate wastes from their system when they are ill, but continue the same diet when they are well. For instance, as David writes:

Therapeutic diets often facilitate dramatic healing . . . [but] this does not mean they will continue to work on an everyday basis once the body is healed. Often a diet provides therapeutic benefits for a specific period of time and loses its effectiveness when the natural limits of its healing powers are reached. We have seen an example of this in cleansing diets that have positive benefits yet cause negative reactions once the body moves in a building phase.⁵¹

In her wonderfully written and researched book *Food and Healing*, Annemarie Colbin explores this topic in depth. She also discusses the biochemistry of foods, how and why different nutritional systems developed, and which diets work best according to the environment and unique stresses under which the person is living. Although this book was written in 1986, it’s as relevant today as when it was first written.

Nutrient Balance

Another aspect of a food’s suitability is its proportion of proteins, carbohydrates and fats, or its contribution to the total protein, carbohydrate and fat content of the entire meal. The nutrient content of a food (vitamins, minerals, essential fatty acids, enzymes, etc.) also contributes to one’s overall feeling of wellness. People require different amounts and types of nutrients, depending on their metabolism, level of physical exercise, mental exertion, climate in which they live, and state of wellness or illness.

Fads, Trends, and Bald-Faced Lies

Fad is defined by Webster as “an exaggeratedly fussy attitude, especially about eating or not eating certain kinds of food.” My definition of a “fad” is:

- ◆ You keep eating a certain way, even though you look and feel worse.
- ◆ You keep eating a certain way because it is advertised and talked about, even though you look and feel worse.
- ◆ You know all of the “scientific reasons” for eating this way, even though you look and feel worse.

—Mary Frost

Going Back to the Basics of Human Health, 1997

Timing of Eating

Some people function optimally eating a good hearty breakfast in the morning. It helps them wake up, focus, work and relate; and if they don't eat they're grouchy. Others feel better eating lightly or not at all when they awaken; a morning meal makes them feel heavy, lethargic and unable to focus.

That said, the maxim "eat a good breakfast every morning" may still be true. The lack of hunger on awakening could indicate that the metabolic thermostat is not working properly. Many people make the mistake of shocking their body into waking up by drinking coffee. Coffee does diminish hunger, but it accomplishes this by disrupting the body's blood sugar regulation. It would be more productive to eat some animal protein in the morning to reset your metabolism.

Some people face problems if they end their evening meal later than 7:00 p.m. By then (partly because the sun has set, or will soon set), the body is preparing for sleep rather than digestion. Going to bed on a full stomach will almost certainly cause indigestion. Indigestion leads to disturbed sleep and equally disturbing, chaotic dreams. Eating a large, late evening meal is also one of the chief causes of weight gain, especially if there is no exercise afterward to burn the calories eaten. And eating a large meal just before bedtime may curb your appetite for the next morning—which further interferes with the hunger cycle. This explains the wisdom of eating meals at about the same time each day.

You don't, however, want to go to bed hungry; that may keep you awake. See **Sleep and Rest** at the end of this chapter for information on natural substances that help induce sleep.

Atmosphere

The setting in which we eat is an often overlooked, but important, factor in how well we digest, assimilate, and enjoy our meals. In fact, setting is so important that an entire art of interior design, decoration and service is taught by the restaurant industry. Atmosphere is more than the taste, smell, and texture of the food. We need to factor in elements of sight and sound in the environment.

A spacious room with visually pleasing lines helps one focus on digestion, whereas a cluttered room is not restful to the eyes and detracts from digestion. Similarly, music that is soft, melodic and not too fast is soothing to the nervous system, whereas music that is loud, raucous and has a heavy bass beat is stressful.

High-end restaurants emphasize low lighting, uncluttered décor that's easy on the eyes, muted or soft colors, gentle music played at a low volume, and table linens that suggest luxury. All these comforts make diners want to take their time when they eat. Lavish restaurants can afford such features, because the food is pricey. But in a fast food eatery, where food is cheap on many levels (as well as not very nutritious), the goal is to serve as many customers as possible. To induce people to eat quickly, the lighting is bright and harsh, the prominent décor colors are orange and red, and the music has a strong beat and is played at a loud volume. Thus, the establishment compensates in quantity what it cannot deliver in quality. Which atmosphere do you prefer?

Attitude

When I was a child, my mother always used to yell at me not to guzzle my food, but to chew it thoroughly. Now that I am an adult (and a researcher), I understand why. Even though digestive enzymes are secreted by the stomach, pancreas and liver, to repeat an old adage, digestion really does begin in the mouth. The salivary glands secrete an enzyme to digest starch.

The major, initial work of digestion, however, is done by the teeth. The more that the teeth break down food into small particles, the less mechanical motion is required of the stomach later. If you eat when you're in a hurry, or are feeling anxious and angry, the secretion of

digestive enzymes is impaired and as a result, nutrients are not well absorbed. In addition, chronic digestive ailments such as colitis, hiatal hernia, and Crohn's disease may arise. This is why folk wisdom from all over the world advises people to eat only when they are feeling calm and relaxed. The calmness and intention with which you approach your food is so important, it can sometimes even offset the effects of unsuitable food.

There's a saying, "Eat your drink and drink your food." In other words, hold a drink in your mouth long enough for your body to know which biochemical messages (enzymes) need to be activated. And make your solid food watery enough to activate the enzymes as well. Slow eating requires calmness. However, equally important is gratitude towards the life forms that feed us.

Animals and even plants have consciousness. Their self-awareness may not be as sophisticated, complex or recognizable as our own, so it's easy to dismiss other life forms as unaware. However, anyone who lives with a pet, or spends time observing animals in the wild, knows that

The fate of a nation
has often depended
on the good or
bad digestion of a
prime minister.

—Voltaire, French
novelist, critic, humorist
(1694–1778)

other creatures develop social structures, are capable of learning, have distinct preferences, and feel emotions including fear, curiosity, joy, grief, and even love. Two wonderful books that explore this in detail include *The Emotional Lives of Animals* by Marc Bekoff and *Animal Wise* by Virginia Morell.

The reactions of plants are more difficult to detect and generally less known than those of animals, so I'll discuss plants in more detail. The groundbreaking polygraph experiments of lie-detector expert Cleve Backster, which began in 1966, are described in the amazing classic *The Secret Life of Plants*.

The human body's electrical potential—or basic charge—can be measured as it fluctuates under the stimulus of thought and emotion. The standard police usage is to feed “carefully structured” questions to a suspect and watch for those which cause the needle to jump. Veteran examiners, such as Backster, claim they can identify deception from the patterns produced on the graph.⁵²

Backster was teaching a class on lie detection when he watered a tropical *Dracaena* plant that was sitting in his office. In his now-famous landmark demonstration, he spontaneously hooked up his polygraph to a leaf to test the electrical conductivity of the plant. He had assumed that a moister plant would show more conductivity. But the readings did not change. However, when Backster then decided to burn the leaf to which the electrodes were attached, the needle on the machine went wild!

Backster's dragon tree, to his amazement, was giving him a reaction very similar to that of a human being experiencing an emotional stimulus of short duration. Could the plant be displaying emotion? . . .

When Backster left the room and returned with some matches, he found another sudden surge had registered on the chart, evidently caused by his determination to carry out the threat. Reluctantly he set about burning the leaf. . . . [However, when he later] went through the motions of pretending he would burn the leaf, there was no reaction whatsoever. The plant appeared to be able to differentiate between real and pretended intent.

. . . More than 25 different varieties of plants and fruits were tested, including lettuce, onions, oranges, and bananas. The observations [were] each similar to the others. . . . The phenomenon appeared to persist even if the plant leaf [or fruit] was detached from the plant. . . . Even if a leaf was shredded and redistributed between the electrode surfaces there was still a reaction on the chart. The plants reacted not only to threats from human beings, but to unformulated threats, such as the sudden appearance of a dog in the room or of a person who did not wish them well.⁵³

More recent studies show that plants are acoustically sensitive. They will send their roots toward moving water, but not a recording of moving water. They will produce defensive chemicals when their leaves are being eaten by caterpillars, but not when the wind is blowing (which sounds similar to a caterpillar's chewing). Even more remarkable, a plant can recognize when it shares the same container with a sibling—another plant grown from an offshoot of the original plant or cutting—compared to similar unrelated plants. Related plants give each other room to extend roots, rather than competing for soil space.

The ways in which animals and plants perceive, communicate, and express themselves are beyond the scope of this book. My point here is that genuine thanks for our meals is not merely an empty gesture. True gratitude indicates an appreciation and connection to what we have. It does

not need to be expressed under the auspices of religion. Gratitude not only gets our juices flowing (literally), but it transforms us and our surroundings in positive ways.

The knowledge that animals are sentient beings who feel and reflect is often the reason that people become vegetarians. But what about plants? Now that we know plants have feelings too, what is left to eat? The person who can connect to the inherent consciousness of the animals and plants that give their lives to sustain us, sometimes feels deep sorrow. This may partly explain why people can become so argumentative about the “right” way to eat. Perhaps some of us harbor deep feelings of regret that we have to eat at all.

I feel my best when I eat both animals and plants. Giving heartfelt thanks to the plant and animal kingdoms for their sacrifice helps me feel more at peace with my need to consume them.

There is a vast difference between food-faddism and the subject of diets. Diets have become viewed as what a person is *limited* to in eating, whereas they should be viewed as what a person *must* have as nutritional elements.

—L. Ron Hubbard
Clear Body, Clear Mind, 1990

In Brief

There are many approaches to diet. What we eat is a highly personal matter influenced by biochemical, physiological, psychological, environmental, and cultural factors. People have different needs at different times. Within a wide range of menu choices, some foods are life-sustaining while others are devitalizing. An appropriate food is whatever supports your system and health situation.

A healthy diet involves:

- ◆ The intrinsic quality of the food.
- ◆ The way in which the food is prepared (discussed in detail shortly).
- ◆ How well the food matches the individual's lifestyle, health, ancestry, stress levels, and nutrient needs.
- ◆ The setting in which the food is eaten, which includes the attitude of the eater.

How We Raise Our Food

Eating used to be simple. Our great-grandparents or grandparents would either grow food themselves in their garden, buy from or trade with a neighbor, or—if they lived in a city—buy from the truck that rumbled in a couple of times a week with freshly picked produce from nearby farmers. Even people living on the outskirts of a small city owned chickens so they could eat fresh eggs almost any time they wanted them. Housewives grew herbs on their windowsills, and it was standard practice to bake their own bread and even grind their own flour.

Times today are radically different. More people live in cities than in wide open spaces suitable for farming. With the focus on narrow, specialized skills required by technologically-advanced societies, hardly anyone grows their own food anymore. We are more alienated than ever from the living soil, the source of our sustenance. Foods are no longer vital and nourishing, but highly manipulated commodities that only faintly resemble their animal and plant origins. In fact, food growers are part of the food *industry*. Agriculture has become *agribusiness* and *megaculture*, reflecting the appropriation of family farms by huge conglomerates.

Our great-grandparents and even grandparents would have been baffled by the following definitions, because until the last 50 or 75 years there would not even have been a reason to use the terms. These definitions deal with the “how” of food growing. Directly after, I will discuss the “what”—what specific foods and food groups are commonly available, and how to make the healthiest choices for your individual needs.

Factory Farming or

Confined Animal Feeding Operations (CAFOs)

Food simply used to be called “food.” But with today's modern production methods, “factory farmed” is a specific way of describing how our food reaches us from farm or ranch to table. Factory farmed foods—basic to all conventional supermarkets—are grown and processed in the cheapest and most expedient manner possible. This means that whatever is being grown or raised is treated solely as an item for commerce, rather than as a vital part of the Earth that's intended to nourish us. Standard supermarkets tend not to use the term “factory farmed,” especially in reference to animals, because of how the animals are treated. I will discuss produce first.

The goal of factory farming produce is to create fruits and vegetables that grow quickly, are uniform in size and appearance, can be packed neatly in boxes, and will travel well for shipping—often across thousands of miles, even overseas. To achieve this, only a few varieties of each plant are grown. One of many problems with this *monoculture* system is the lack of resistance to insects and disease.

The vegetables and fruits are grown on huge farms measuring hundreds of thousands of acres, with the latest irrigation equipment, sowing and fertilizing techniques, and harvesting methods. In the United States, according to the US Geological Survey, pesticide use “has remained relatively constant at about 1 billion pounds per year. . . . Agriculture now accounts for 70% to 80% of total pesticide use.”⁵⁴ Millions of tons of chemical fertilizers are applied, and the amounts increase yearly. These chemicals damage the soil, poison our water supply, injure the plants, and harm the health of the people who eat those plants. The soil becomes demineralized, the roots of plants are burned from the phosphates in the fertilizers, and we consume weed killer along with our salad. We don't always see this destruction, so it can be easy to ignore it. The tragedy is, there are wonderful ways to remineralize the soil so that these synthetic chemicals aren't needed. Often, the simple addition of calcium-rich lime is sufficient. (A great source of information is the wonderful farming magazine, *Acres USA*; see References.)

Factory farmed animals are treated just as cavalierly as crops and our precious soil. But because their suffering seems more obvious—their living conditions clearly lead to suffering, serious illness and even death—the plight of these animals can be more difficult to ignore. They experience ongoing physical and emotional stress. They are physically mutilated. And they are deprived of the diet they would normally eat. All of the animals are prone to infection, resulting from the lack of exercise and sunlight, forced confinement, abnormal crowding, and

the concentrated amounts of urine and manure in their living quarters.

The concentration of manure in these huge conglomerations is the rationale that factory farmers use to routinely give their animals antibiotics. But this practice is backfiring. For example, the summer of 2007 brought alarming reports of infections of methicillin-resistant *Staphylococcus aureus* (MRSA) in the meat of factory farmed pigs, chickens, and (to a lesser extent) cattle. In the Netherlands alone, the MRSA strain was found in 20% of pork and 21% of chicken. Now MRSA has spread worldwide. Another problem with antibiotic-fed animals arises when their manure is used as fertilizer. The drugs are excreted in the manure and the plants absorb the drugs, which become concentrated in the leaves and especially the roots. This has huge health ramifications for people who eat potatoes, beets, and carrots. Such manure is legally permitted to be applied to organically grown crops, even though the smaller farms tend not to use it.

The environmental damage from factory farmed manure is severe. In a diverse ecosystem, the animals' manure is naturally recycled. In mega-farms, the manure spills into nearby lakes, streams and underground springs, thus encouraging the rapid growth of algae and bacteria.

Slaughtering techniques are similar for all factory farmed animals. According to US law, pigs, chickens and other animals must be stunned (via electroshock or a mechanical blow to the head) before being hung upside down by their back legs and bled to death. But too often the animals aren't sufficiently stunned because the workers aren't given enough time. The animals remain conscious as they're knifed and cut to pieces. Their kicking and struggling then injures the workers who are trying to kill them. (Slaughterhouse workers suffer the highest rate of injuries of all manufacturing employees.) Slaughtering a pig can be especially difficult. If it can't be killed with a knife within the allotted time limit, the worker must still carry it to the next station on the assembly line—a scalding tank—where the fully aware pig is boiled alive.

The high levels of fear and terror in these animals skyrocket when they're slaughtered. The stress hormones they release travel to their muscles, and we ingest these hormones when we eat the meat.

Please note that I am not trying to promote a vegetarian agenda. My intention is to point out that factory farming causes undue suffering for the animals, and this suffering eventually becomes part of our meals—and our very cells.

Now let us briefly examine a few more details of the living conditions unique to each animal that supplies us with protein.

The road to healing begins when we all feel deep concern for the suffering that surrounds and suffuses us all with the darkness of a dying planet. We have made the Earth so sick—and ourselves in the process—because we have lost touch with the sacred dimensions of reality, of nature, of wholeness, balance, harmony, health and spiritual well-being.

We are so spiritually disconnected that we find reason to put our own genes into pigs so that we can use their hearts and other organs to replace our own diseased organs, which have in turn been harmed by our excessive consumption of animals raised in horrendous conditions and the ongoing pollution of the environment and our vital food chain.

We are so cognitively disconnected from reality that we spray poisonous chemicals on the crops we feed to our children and rationalize such stupidity as the best and most efficient way to feed a hungry world and even to protect wildlife and biodiversity.

We are so emotionally disconnected from other animals that for economic reasons we justify incarcerating livestock in the cruel, intensive confinement systems of factory farming, and accept the suffering of other animals in vivisection laboratories in the name of medical progress. To question this pathology of anthropocentrism is not to put animals or nature before people, but rather to demand a full ethical and economic accounting of those activities, values and policies that are harmful to the life community.

—Michael W. Fox, DSc, PhD, BVetMed
Acres USA, July 2007

Birds. Chickens and turkeys are kept in cages that are so cramped, the birds peck at each other in frustration. This is why their beaks are clipped (without anesthesia). Additionally, the claws of turkeys are clipped to prevent them from attacking each other. Often the cages are stacked one on top of the other, from floor to ceiling.

Urine and excrement abound. When there are no cages, the birds wade through this mess on the floor. The ammonia fumes from the waste are so strong, the chickens develop severe respiratory lesions and gastrointestinal tract disorders. “The livestock sector,” reports one source, “produces an estimated 73% of all ammonia emissions nationwide.” The United States Environmental Protection Agency lists ammonia “alongside arsenic, cyanide, and benzene as hazardous substances. . . .”⁵⁵

Arsenic, added to the chickens' feed to kill intestinal parasites, is not excreted. It remains in the chickens and ends up on our plates. The food factories don't give workers enough time to remove all the feces from the

poultry, so all birds are dipped in a bath of carcinogenic chlorine bleach to sterilize them.

Sometimes the bones in the chickens' legs become abnormally soft and the muscles turn weak, making it impossible for the birds to walk. However, these diseased and dying birds are seldom discarded. When they're processed, the overtly bad portions are simply cut off and thrown away, and the apparently normal parts are sold. Damaged and diseased birds are largely the source of the "one type of chicken part" packages available in commercial supermarkets.

Due to consumer demand for white meat, factory farmed chickens and turkeys have been bred, and sometimes genetically engineered, to have excessively plump breasts. (The section on genetic engineering starts on page 288.) Carrying this extra weight is abnormal for the birds. Turkeys have been altered so much that they cannot even breed as they normally would, so the females must be artificially inseminated.

Birds that are not factory farmed, or descended from factory farmed birds, are structurally quite different. They are not only sturdier, they function better too. Heirloom animals and plants will be discussed shortly.

Eggs. Factory farmed eggs come from factory farmed chickens. The farmers trick the chickens into laying more eggs by keeping them under artificial lights for at least 17 hours a day. Whereas one free roaming chicken will lay one egg about every other day (and fewer during cold weather), one caged, factory farmed chicken will lay 300 eggs a year.

Foie Gras from Ducks or Geese. Translated literally from French as *fatty liver*, foie gras is a pate (mash) traditionally made from the enlarged livers of geese, and more recently, ducks as well (which are easier to raise than geese). Foie gras is expensive, and considered a delicacy. Ducks only a few months old are confined to a dark shed, and force-fed excessive amounts of food several times a day via a feeding tube thrust down their throats directly into their gullets. The liver, unable to handle that kind of overfeeding, becomes pathologically enlarged, usually about 8 or 10 times its normal size. Such ducks become obese, and stand, walk and breathe with difficulty. They suffer from throat lacerations, and from bacterial and fungal infections in their digestive tracts. Many die prematurely.

Swine. This term covers pigs and hogs—which are simply larger pigs, weighing more than 120 pounds (50 kilograms)—that are raised for ham, pork, and bacon. These animals lead wretched lives. Breeding sows are subject to continuous impregnation via artificial insemination, and are confined in 2-foot-wide gestation crates that prevent them from turning around or

lying down comfortably. The crates to which they are transferred to give birth have barely enough room to stand up and lie down. With no straw or other bedding, many develop sores on their legs. (Currently, some US states are creating laws that forbid the use of breeding crates.)

When the piglets are young, notches are cut into their ears for identification. Their tails are also cut off—all done without anesthesia or pain relievers—to minimize tail biting, a neurotic behavior due to their agitation over being confined. Fifteen percent of all piglets die by the age of three weeks. The survivors are taken away from their mothers and crowded into pens with metal bars and concrete floors. Pigs are confined until they reach the weight of 250 pounds at six months of age.

Pigs are inherently clean animals. When allowed to roam outdoors in humane conditions, they roll in the mud to keep cool. Given enough space, they are careful not to soil their eating and sleeping areas. But factory farms force them to live in their own excrement and vomit. Sixty percent of pigs have severe respiratory problems due to the dander and noxious fumes from the urine and feces that build up inside the sheds. They also suffer from arthritis (due to their unnaturally rapid growth rate, lack of exercise and excrement-covered floors); parvovirus; and various gastrointestinal diseases including salmonella.

Pigs and hogs conventionally raised for consumption in the US are routinely given a growth enhancer drug called *ractopamine*. The drug's effects include tachycardia (elevated heartbeat), enlarged heart, respiratory disorders, bloat, lameness, muscle stiffness, hyperactivity, aggression, and death. Birth defects—missing digits and abnormally short limbs—have appeared in test animals. Since other countries banned its use, growers in the United States haven't used it in exported meat; but the drug has been approved in the US and is used freely. Ractopamine is also fed to cattle, who then develop hoof problems (the hooves simply fall off the animal). Turkeys are fed the drug as well. Despite being sued, the FDA has refused to release records pertaining to the drug, which so far has been tested by Codex (the United Nations "food standards" organization) on only six humans—one of whom left the study due to adverse effects.

Cattle. Of all factory farmed animals, adult cattle raised for beef have the easiest lives. Because of their size they must live outside in their natural surroundings. During this time, the most serious violation they must endure is probably branding, where a piece of hot iron is seared into their flesh for identification purposes. For identification, many cows wear ear tags of plastic or metal that pierce their ears. Some of these tags are electronic, emitting frequencies of 125 KHz or higher for tracking purposes.

Before being transported to slaughterhouses in cramped trucks, most cattle are first taken to feedlots to gain more weight. Factory farmed cattle are usually fed genetically engineered grains, manure from chickens and other animals, slaughterhouse waste, and even garbage (including sawdust, cardboard and newspaper).

Dairy cattle are routinely fed rBGH (recombinant bovine growth hormone). It artificially creates a larger milk yield but also makes the cows ill, causing pain and discomfort due to increased swelling of the udder. This in turn promotes infection, which leads to an increase of pus and blood in the milk that the cows provide. These biological wastes, plus developmental abnormalities, are then passed on to anyone who eats the milk products. (See Chapter 1 for more information on rBGH and its effects on both cows and humans, and for information on the media's attempt to conceal its dangers.)

The social costs of factory farmed foods are high. Crops are usually picked by workers who live in substandard conditions and are not paid a living wage. Often the crops are irradiated (described on page 290). Meats are butchered in giant warehouses under inhumane conditions, both for the animals and for the workers who slaughter them. The workers often become injured due to the high rate of repetitive motion involved in processing animals at breakneck speed. In the United States, many workers hired as food processors are illegal immigrants who don't protest against filthy and dangerous conditions because they fear that they will simply be replaced. (Apparently, both animals and humans are considered expendable.) Although the US government has been more diligent recently in investigating the hiring of these workers, conditions have not improved much.

Calves (Veal). The marketing phrase “milk fed” refers to commercially raised calves, which produce veal. Adhering to an increasingly common practice of language reversal, the phrase means exactly the opposite of what the dictionary (and common sense) would indicate. Young calves are confined to pens that do not allow them to turn around or lie down. They are separated from their mothers at an early age and are not allowed to nurse. This nutrient-deficient diet is administered purposely to make them anemic, which gives their flesh an abnormally tender texture after they are slaughtered. Organically raised or grass fed calves are never called “milk fed”; they *are* fed milk—which makes them, and us, healthier.

Conventionally Grown / Raised

In common usage, *conventional* means “customary,” “commonplace,” “predominant” or “prevailing”—in other words, what the dominant or mainstream culture has

decided is normal or right. This is simply a more benign way of saying “factory farmed.” The food industry doesn't want to remind consumers of the dangers of factory farmed food—the dangers of ill health for the animals, for the people who eat the animals and produce, and for the employees who are forced to process these products under substandard working conditions. Using the word “conventional” helps to soften the implications of what people are eating when they choose factory farmed animals and plants.

Farm Raised

This legal term pertains to fish. The most popular farmed fish include bass, carp, catfish, tilapia, trout, shrimp, and salmon. I will discuss salmon in detail because it's so toxic.

Farmed salmon are grown in small floating cages in rivers and oceans. The pens are crowded, which increases the incidences of disease. To deal with infection, salmon growers routinely feed antibiotics to the fish along with their food—more antibiotics for their weight than any land livestock. The salmon's feed is also contaminated with over a dozen dioxins and industrial chemicals. Normally, salmon in the wild turn orange-pink due to the high amounts of krill (a tiny shrimp) they eat. Denied their usual diet, their flesh turns gray. This is why the pellets of grain and other ingredients they are fed are laced with bright orange dye. The amount and hue of the dye is based on a survey conducted by the fish industry to determine which shade of orange seemed the most “natural” to consumers, and thus the most appealing.

Farmed salmon causes other problems too. Depending on which source you believe (the US Department of

Humane Slaughter

The animals we raise for food deserve to have not only peaceful and comfortable lives, but also peaceful and comfortable deaths. To accomplish this, Dr. Temple Grandin has been designing humane cattle butchering plants for decades. In her books and lectures, Grandin describes growing up autistic: perceiving the world in pictures (rather than words), and being easily overwhelmed by stimuli that most people can ignore. In some ways, Grandin's neurological wiring and information processing are similar to that of animals, giving her profound insight into how cattle respond to their environment. Thanks to her genuine love of cattle, the animals can spend their final moments feeling calm instead of terrified. Grandin's facility designs and cattle handling techniques are used in slaughterhouses all over the world.

Agriculture or the World Health Organization), the farmed Atlantic salmon contains 70% to 200% more fat than wild Atlantic salmon because of the high fat content in their feed. These fats are the more common Omega 6s, not the less common (and more healthful) Omega 3s.

Farmed salmon pose serious danger to wild fish. Crowded together in large numbers, the artificially raised salmon accumulate abnormally high levels of excrement in very small areas. Farmed salmon infect their wild counterparts—which may live near the cages or merely swim past them—with parasites and other infectious diseases that ordinarily don't plague the wild fish. Increasing numbers of farmed salmon are being genetically engineered (see "Genetically Engineered or Genetically Modified" in the next column). Despite the denials of the farmed fish industry, GE salmon can—and do—escape from their cages. Once in the open water, they mate with wild fish. The resulting offspring are often malformed or sterile. Farmed salmon are now endangering the entire wild salmon population.

Wild salmon is highly nutritious. The types of Pacific salmon that usually aren't farmed are sockeye, chum, and pink. However, this may change, so check with the fish seller to be sure.

Genetically Engineered or Genetically Modified

Genetic engineering involves the splicing of genetic material from a plant, animal or even human tissue, into the plant being manipulated. The phrase *genetically modified* (GM) is interchangeably used with *genetically engineered* (GE), while the acronym *GMOs* stands for the *genetically modified organisms* that are used to make GE/GM plants. GE plants are extremely dangerous—to humans, animals, and the environment. The most prevalent genetically engineered crops are corn and soybeans, although many more plants, including potatoes, rice and apples, have been produced on a smaller scale.

The genetic engineering of plants (and animals) has been done for decades. In the early 1970s, scientists discovered how to transplant genes between different biological species and created the first GMOs. In 1975, a secret conference was held in the US to discuss how genetic engineering should proceed. One year later, the National Institutes of Health produced guidelines for genetic modification research. To give just a few highlights of that research: technicians produced a GE pig in 1985, a mouse carrying human genes in 1987, the first GE corn in 1988, and a tobacco plant that produced hemoglobin (a human blood protein) in 1995. By the

The Mechanics of Genetic Engineering

Ordinarily, when humans produce new varieties of crops, they place the pollen of one plant onto a related plant to produce a new variety (called *hybridization*). Or, they place two similar animals in a pen and hope that they mate. But genetic engineering is completely different. It's "the process by which genes are altered and transferred artificially from one organism to another," writes Environmental Research Foundation consultant Rachel Massey. "Genes, which are made of DNA, contain the [biochemical] instructions according to which cells produce proteins; proteins in turn form the basis for most of a cell's functions. Genetic engineering makes it possible to mix genetic material between organisms that could never breed with each other."⁵⁶

In *Trust Us, We're Experts*, Sheldon Rampton and John Stauber point out that genetic manipulation is "frequently described as 'gene splicing,' a term that obscures much of the uncertainty and imprecision of the process." It evokes images of splicing a piece of film, which is easily seen and rearranged. However, one commonly used technique uses a patented "gene gun" that shoots tiny metal DNA coated slivers from one organism to another. "No one can predict where the new gene is going to land within the genome of the targeted organism. It may attach to the site of any chromosome, or may attach in the middle of another gene and interfere with the normal functioning of the cell."⁵⁷ Hungarian research biologist Arpad Pusztai analogizes this process to putting a blindfold on the archer William Tell before he shoots his arrow at a target.

It's more than crops that are bioengineered. So is a new type of lawn grass (that presumably won't need to be mowed much). However, this grass is outside the jurisdiction of the US Agriculture Department; so even the small amount of regulation that GE plants might have is non-existent in this case. The creators of the grass used a legal loophole in the law by inserting foreign genetic material from *other plants* into the grass instead of bacteria or viruses. A company executive stated: "If you take genetic material from a plant and it's not considered a pest, and you don't . . . sort of violate the rules, there's a bunch of stuff you can do that at least technically is unregulated."⁵⁸

Proponents of GE foods claim that there's no difference between splicing genes in a laboratory and cross-breeding plants, but this is not true. In the laboratory, scientists are crossing the species barrier by mixing together genetic material of animals, plants, and microorganisms. Human genes in tobacco, fish genes in tomatoes, viruses in squash and fruit, etc., would never be found in Nature. The natural world limits the negative effects of cross-pollination and cross-breeding by ensuring that only related plants or animals can accept each other's sexual seed (pollen or sperm).

mid-1990s, the biotech company Monsanto introduced “Roundup-Ready” soybeans to make them more resistant to its herbicide Roundup® (which gave Monsanto an opportunity to sell even more Roundup®). In the year 2000, GE StarLink™ corn—which contains a built-in pesticide and had never been approved for human consumption—crept into the human food supply. Across the US, people who ate contaminated tortillas and corn chips reported headaches and digestive disturbances, due to the product’s indigestibility and high pesticide levels. The US government bought all the GE corn-contaminated lots to save the businesses involved from financial ruin; but the funds came from the pockets of taxpayers. Safe-food.org reported, “There are about 40 varieties of genetically engineered crops approved for marketing in the US. As a result, 60% to 70% of the foods on your grocery shelves contain genetically engineered components.” (Other sources give a higher figure of 75%.) “Genetic engineering is the largest food experiment in the history of the world. We are all the guinea pigs.”⁵⁹ (See Sidebar, “The Mechanics of Genetic Engineering.”)

In March 2017, a federal lawsuit against Monsanto revealed that an Environmental Protection Agency official helped promote Roundup® as safe, while deliberately withholding Monsanto’s own data showing that glyphosate causes cancer. Also revealed was a note to the corrupt official by Marion Copley, a now-deceased EPA toxicologist, who accused him of burying the damning evidence.

Glyphosate is the main ingredient in Roundup®. The “gly” in glyphosate stands for *glycine*, an amino acid used by the body to make proteins that are found in high concentrations in the skin, joints, muscles, and connective tissue. Glyphosate contains a glycine analogue that latches onto the body’s glycine receptor sites instead of the real glycine. Thus, when glyphosate is ingested, the body creates counterfeit proteins that are completely nonfunctional—resulting in severe cellular and tissue damage. Christopher Portier, one of the lead scientists who conducted the World Health Organization (WHO) study on Roundup®, has publicly stated that glyphosate causes genetic damage that can lead to non-Hodgkins lymphoma, lung, and other cancers. Glyphosate causes a fatal kidney disease due to its ability to attract heavy metals. It binds to manganese and other vital minerals, preventing the body from utilizing them. It promotes aluminum absorption, which contributes to or outright causes dementia and autism. And glyphosate creates the neurotoxin formaldehyde when it degrades. Roundup® is one thousand times more toxic than glyphosate alone, because the petroleum and other poisonous compounds it contains interact together in a hazardous way. If you eat GE crops, you ingest even more toxic pesticide than if you ate conventionally sprayed, non-GE crops. All pesticides migrate to inside the plant, so washing the surface does not

totally eliminate the poisons. GE crops are so poisonous, their exceptionally poor nutrient content is irrelevant.

Some GE crops contain built-in drugs such as vaccines, forcing people to ingest unsafe drugs that they might not need or want. GE tomatoes contain genes from a cold-water fish (ostensibly to make the tomato more resistant to freezing and thus allowing for a longer growing season). But this forces consumers—including vegetarians and those with fish allergies—to ingest fish proteins along with their tomatoes. To add a cannibalistic note, human liver genes are now found in rice. (The gene was presumably added to help us digest the pesticides used on the rice.)

These bizarre genetic experiments, rightly called “Frankenfoods” by critics, inflict unthinkable damage on humans, animals, other plants, and insects: chickens with four feet, calves and goats with two heads, piglets with wafer-thin skin. A gene for human growth hormone causes pigs to become skinny, cross-eyed, and arthritic. When spliced into salmon, the growth hormone gene makes them grow too big, too fast. And it turns them green. Farmed salmon escape from their pens into large

bodies of open water, contaminating wild fish populations.

Monarch butterflies and ladybugs that consume pollen from plants engineered to produce the toxin from the *Bacillus thuringiensis* bacterium become sick or die, as do birds that eat the contaminated insects. In the past few years, beekeepers worldwide have reported losing between 60% and 70% of their bees. We now know that GE crops—and the toxic pesticides so freely sprayed on them—are partly responsible for the disappearance of the bees (called “Colony Collapse Disorder”), due to impaired memory, loss of navigation ability, and poor immune response. A four-year study by German zoologist Hans-Hinrich Kaatz showed that an alien gene used to modify some strains of canola had transferred to bacteria living inside the guts of honeybees. In a similar way, GE bacteria contaminate the beneficial bacteria in the human digestive tract. The intestinal flora aid with digestion, immunity, blood clotting, and other important functions. The DNA of humans who eat genetically contaminated produce is permanently and negatively altered, as is the DNA of the animals that are fed GE crops.

Livestock farmers report that, given a choice, their cattle walk away from GE grain and instead go to the non-engineered batches. They only eat the GE feed if they’re starving. Apparently, animals have more sense than many humans.

A Quick Guide to GE Crops

Corn. In the US, the federal government subsidizes the growing of corn, making it the foremost GE crop grown. GE corn is used mainly as animal feed, but it has gotten into the human food supply.

Soy. Even when raised organically, soy is problematic to eat (unless fermented for over two years), is most often GE. The oils, protein supplements and emulsifiers into which it's made, are also genetically modified unless labeled otherwise.

Yellow Crook Neck and (green) Zucchini Squash. Not many of these squashes are GE, but it's worth buying organic to make sure you don't ingest foreign proteins.

Alfalfa. Despite opposition from consumers and organic farmers, alfalfa became genetically engineered in 2011. Cows fed GE alfalfa suffer from abnormally high digestive disorders and parasites.

Canola. About 90% of canola from the US and Canada is estimated to be genetically engineered.

Sugar Beets. More than half of the sugar sold in the US comes from sugar beets, not sugar cane; and of the beet sugar, at least 90% is GE.

Cottonseed. The genetic engineering of cotton affects more than the clothes we wear. Cottonseed oil is routinely used in chips and bakery items.

Papaya. This amazingly versatile fruit, whose enzymes heal wounds, has been ruined in Hawaii, where 75% of the papaya crop has been GE.

Upcoming: apples, trees, and more.

Seeds are spread by the wind and birds, and pollen is transferred by insects. It's nature's way of helping plants propagate. But many farmers who choose not to use GE seeds are finding that their corn, wheat, canola and other crops are becoming contaminated anyway, because nothing can stop the wind from scattering pollen from GE fields to non-GE fields. Glyphosate resistance has even been transferred to weeds. Glyphosate-resistant weeds are proliferating all over the world: horseweed in several areas of the US; rigid rye grass in Australia; goose grass in Malaysia; and various other plants in Canada.

A press release, issued worldwide in the spring of 2006, described how 1,820 sheep in New Zealand had died after grazing on land where GE cotton had been grown. "The sheep and goats started dying after seven days of continuously grazing on tender leaves and pods of Bt [GE] cotton that remained in the fields after picking," the report stated. "Even wearing GE cotton could cause terrible skin reactions. . . . Workers picking GE cotton suffered severe skin reactions with itching and blistering eruptions leaving

a black skin discolouration which was still apparent after five months."⁶⁰ Currently, many scientists believe that the mysterious new condition called Morgellon's disease—where living, parasitic strands of fibers emerge from the skin, causing severe skin eruptions and neurological damage—may be at least partly related to wearing clothing made from GE cotton.

Most people, worldwide, are actively opposed to eating GE produce and animals. In the US, consumer groups are demanding compulsory GE labeling. However, the Grocery Manufacturers Association of America has donated hundreds of thousands of dollars to help defeat laws that would require such labeling. If consumers knew what they were really buying, there would no longer be a market for GE produce and GE animals, and company profits would dwindle. Most countries in the world have made GE crops illegal. China and Africa have even refused GE-contaminated shipments of US corn.

Unless you buy organic produce or trust the farmer who supplies your food, supermarket or restaurant food are likely genetically engineered. So, if you haven't eaten organic foods on a regular basis but are thinking of starting, now is the time. A good way to avoid even accidentally GE contaminated foods is to eat less popular produce that industry has not tampered with (because there is no money to be made in less popular varieties). This means consuming less familiar vegetables, or, if you eat corn, blue corn or popcorn (different species) instead of white corn.

Monsanto (recently merged with Bayer) was then given permission to use the more favorable word "biofortified" instead of "genetically engineered." Don't be fooled.

Irradiated

Irradiation consists of bombarding foods at high speeds with gamma rays from Cobalt 60, Cesium-137, or other radiolytic (radioactive) substances, some of which can remain radioactive for 600 years. Almost everything you buy in the supermarket—meat, poultry, eggs, fruits, vegetables, spices, nuts, seeds, grains, processed and baked goods—is irradiated.

The rationale for treating foods in this manner is to prevent spoilage from bacterial contamination and infestation by insects. But in truth, the practice was originally promoted by the nuclear power and nuclear bomb industries, which needed a way to get rid of their nuclear waste. These industries not only succeeded in creating a venue for their waste material, they also reaped a profit by creating a marketplace "need" for something that consumers would never think to ask for. The FDA has legalized irradiation, ignoring the growing body of research showing that this process alters the texture of foods; destroys nutrients such as enzymes and Vitamins

A, B, C, E and K; creates poisonous byproducts such as benzene, formaldehyde and nitrosamines; and makes the food carcinogenic due to the change in its molecular structure. (All these effects are similar to those caused by cooking food in a microwave oven, discussed shortly.)

There is also the danger that bacteria exposed to the radiation may develop a resistance to it, and eventually become more dangerous. This is similar to the resistance that bacteria develop from the over-consumption of antibiotics. Ironically, even though bacteria might be killed, their excreted wastes remain in the food.

Not all foodborne pathogens are killed by irradiation. The hepatitis and Norwalk viruses are unaffected. Studies have also shown impaired reproduction and more deaths in animals fed irradiated food. Proponents freely admit that irradiation accomplishes the intended objective of preventing seeds, nuts and grains from sprouting. But think about it: this means that there is no longer any enzyme activity or vitality left in the food! Enzymes are discussed in more detail later in this chapter.

Don't be fooled if you see products marked *cold pasteurization* or *electronic pasteurization*. The food industry uses these terms instead of "irradiation" to persuade consumers that the practice is harmless. Likewise, the FDA terms this atrocity *radiant energy* to make it sound lovely, like sunshine or a fireplace. Newer irradiation techniques use electron accelerators, which cause radiation levels that are equivalent to those produced by up to 70 million chest X-rays. These X-rays can pass through plant cells and break apart the cell walls.

In February 2001, the World Health Organization (WHO) decided to increase the maximum allowable radiation levels for food to the equivalent of 330 million chest X-rays—2,000 times the fatal radiation dose for

humans. WHO claimed that this level is safe. It's no wonder that opponents of irradiation call it "nuking"!

Irradiation opponents point out that if more attention were given to producing food that is grown locally (thus decreasing its shipping time), stored properly, and processed cleanly in the first place, there would be no need to prevent spoilage by nuking it. Meats are prone to becoming highly contaminated with *E. coli* because in the slaughterhouses, the intestines are punctured and feces spill onto the meat. Even though an official food radiation logo exists, it's not routinely displayed in supermarkets or on packaging. Therefore, consumers have no idea what they are buying. The best way to avoid ingesting radioactive waste with your food is to buy from a source you know and trust.

Cloned

"Simply put," reads the website of the Organic Consumer's Association, "cloning is a way to make genetically identical copies of an animal without using sexual reproduction. DNA is taken from one of the animal's cells and inserted into an unfertilized egg whose own DNA has been removed. The egg is then placed inside a surrogate mother."⁶¹ After being shocked by chemicals or electricity, the egg divides as though it were fertilized by a sperm cell from a male of the species. The baby that is eventually born is an exact genetic duplicate of the animal that donated the cloning cell.

Animals that are created by cloning tend to be unusually large fetuses, which can lead to the death of the mother carrying the fetus. The animals also have damaged and abnormal cells that lead to premature aging; deformities of the head and limbs; and problems with the heart, lungs and other organs. "But even if two animals have identical

MSG is Sprayed on Our Crops

In January of 1998, the United States Environmental Protection Agency approved a spray called Auxigro® for use on *all crops*—fruits, nuts, seeds, grains and vegetables—as they grow. The spray, which is approved as a drying agent, disinfectant, fertilizer, fungicide and growth regulator, contains 29.2% glutamic acid, or MSG. Produce can be sold without bearing a label that it was sprayed. MSG is even being applied directly on crops used in baby food, despite the fact that in the 1970s, baby food processors were persuaded to omit MSG from their many products and in 1995, the FDA proposed that free glutamic acid be labeled due to its potentially deadly effect on individuals with asthma. The EPA website states: "Waivers have been requested for acute toxicity, genotoxicity, reproductive and developmental toxicity, subchronic toxicity, chronic toxicity, and acute toxicity to nontarget species. . . ." ⁶² In other words, even though MSG can cause grave damage (and even fatalities) in humans and animals, consumers don't deserve to know about it, and the companies using the chemical aren't obliged to inform the public.

MSG remains on our food, diffuses into the air, and trickles into our groundwater. (See Insert, "The Truth About MSG," on page 343.) Fortunately, Vitamin C (ascorbic acid) protects from glutamate damage. Some practitioners suggest that for every 30 pounds of body weight, take a minimum of 50 mg of Vitamin C between 15 and 30 minutes before ingesting the MSG-laden food. However, the best protection is avoidance. Buy organic.

—adapted from www.msgtruth.org/cropspra.htm
and truthinlabeling.org/msgsprayed.html

Common sense tells me organic is better . . . than the kind grown with organophosphates, with antibiotics and growth hormones, with cadmium and lead and arsenic (the EPA permits the use of toxic waste in fertilizers). . . . Pesticide residues are omnipresent in the American food supply. . . . Many of them are known carcinogens, neurotoxins and endocrine disrupters. . . . The government has established acceptable levels for these residues in crops, though whether that means they're safe to consume is debatable: in setting these tolerances, the government has historically weighed the risk to our health against the benefit to agriculture. The tolerances also haven't taken into account that children's narrow diets make them especially susceptible or that the complex mixtures of chemicals to which we're exposed heighten the dangers.

—Michael Pollan
 "Behind the Organic-Industrial Complex"
The New York Times, 2001

genes," write the authors of a *New York Times* article, "they can turn out differently if those genes are turned on or off at different times. And studies have shown that patterns of gene activity are different in embryos created by cloning compared with embryos created by the fusing of sperm and egg."⁶³ That is why so many clones die during gestation or soon after birth.

Despite consumer objections, in the United States cloned animals in our food supply are neither regulated nor labeled by the Food and Drug Administration. Due to the problems with cloning, it still remains a high-priced method of "food" production; and it's difficult to say how many packages of meat found in supermarkets (mostly beef at this point) are actually from cloned animals. However, some farmers who want to continually perpetuate their prize animals support this method.

Organic

The original legal term, which was set up by the United States Department of Agriculture (USDA), outlined the following conditions. Vegetables, fruits, grains, seeds, nuts and oils must be grown without synthetic pesticides or herbicides, chemical fertilizers, irradiation, or other contaminants. Animals raised for food (and their dairy and egg products) must eat only vegetable materials grown in accordance with organic standards. In addition, the animals themselves must not be given hormones or routinely fed antibiotics (although they are permitted antibiotics if they become ill, as long as the medication is withdrawn a certain number of weeks before the animals are slaughtered).

These standards are acceptable. The problem is, in the past several years conventional food growers—

with the support of the USDA, FDA and the Grocery Manufacturers Association—have tried to dilute organic standards, which would allow organic foods to be heavily contaminated and make the label useless. (The Grocery Manufacturers Association has also infiltrated the Organic Trade Association, which is supposed to certify organic foods.) Attempts have been made to pass bills that allow sewage, irradiation, pesticides, synthetic fertilizers, non-organic and GE feed, chlorine and other chemicals, and even factory farmed animal intestines to be used in the growing of food labeled "organic"! These attempts may or may not succeed; so be sure to stay informed about these schemes to undermine our food supply.

Another dilution of organic laws (at least in the US) is the inclusion of hydroponic plants (raised in water, not soil) and aquaponic plants (raised in water with fish). Food raised in soil contains beneficial microorganisms that are absent in water. Organic is synonymous with "grown in soil." As these sabotage attempts continue, the public will have to object even more loudly if we want our food to remain edible and healthful.

Be aware that some farmers do raise crops and animals organically that are not certified as organic. The farmers can't afford to pay the inflated certification sums required by the government, can't devote large numbers of hours to complete the burdensome paperwork, and can't afford to pay someone else to do the paperwork. Thus, many reluctantly choose to exclude themselves from this classification system. If you know the farmer and trust his or her growing methods, a government certification may not be important. And, if bills are passed that make organic standards meaningless, government certification will not be necessary or desirable anyway.

Wildcrafted or Wild

This term is used mostly for herbs, but can also pertain to fruits and some vegetables. It indicates that the plant has been growing in its natural location, rather than rooted in a garden or farm, that it has not been domesticated, and that it's very likely unsprayed. By definition, wildcrafted herbs are "found" plants, so their numbers can dwindle. Therefore, the people who pick these plants are usually careful to limit the number they take. A good reason to leave some plants is to allow bees and other pollinators access to them, and thus help propagate more plants.

Heirloom or Open-Pollinated

This usually refers to vegetables, although it can also describe other plants and (in the case of *heirloom*) animals. An heirloom plant is hardly ever used in monoculture agribusiness, which relies on hybrid plants to achieve uniformity and consistency. Normally, a hybrid plant is

created by grafting one plant onto another, or by manually mating dissimilar types of plants over many generations to obtain certain desired characteristics. This makes subsequent generations of plants grown from those seeds unstable because the farmer cannot be sure if succeeding generations will have the same (desired) characteristics of the parent plant. Sometimes, the descendants of hybrid plants are sterile; they cannot produce seeds at all.

In contrast, an heirloom fruit or vegetable is open-pollinated. The plant has access to open air, where bees and birds that feed on the nectar, fruit and seeds spread pollen from one plant to another. The plants produced in this manner are always seed-bearing. Also, the seeds they produce will always produce plants just like them—a guarantee that’s impossible to obtain with hybrid plants. Moreover, heirloom plants are hardy and resistant to disease and pests. This is due to the ability of heirlooms to adapt over time to the climate and soil in which they grow. They might not be as conventionally pretty or uniform as hybrids, but the greater environmental adaptability of their gene pool gives them a more varied and interesting appearance and a far better taste. I personally prefer the taste of heirloom produce—even when not specifically stated as being organically grown—to organically raised crops that are not heirloom varieties.

Special strains of cattle, sheep, and other animals that have not been over-bred, are generally smaller than their commercial counterparts, and are not used much for the commercial market, are *heirloom*. Often, the hardest, most flavorful meats are from heirloom animals. Heirloom chickens and turkeys have not been bred to have abnormally large breasts. Such birds are healthier and more resistant to disease because structurally they are stronger. They take more time to raise because they don’t gain weight prematurely, but this also makes them superior in taste to factory farmed and even organic animals.

Unsprayed

Unsprayed is not a legal term, so it can’t be legally guaranteed. Only organically grown crops can be certified as unsprayed. However, if you trust the grower, eating unsprayed produce can be as safe as eating organic. The produce may even be fresher, because it’s probably from a farmers’ market that requires the produce to have been picked within the last 24 hours. See “Local,” below.

Local

Local, while not a legal term, has retained its common meaning because it has not been legally co-opted and altered by government. (Bureaucrats often reverse the meanings of common terms so they mean the opposite of

what we think they mean.) Local fruits, vegetables, and herbs are produced by farmers living within a few hundred miles of your area. Farmers sell either to neighborhood stores, or set up stalls at farmers markets in neighborhood parks, parking lots, and other open areas. “Local” doesn’t indicate how the crops are grown (including whether they are organic). However, buying local is often an opportunity to ask questions of the farmers, including what (if any) sprays they use. More people are beginning to request locally grown produce because it can be picked ripe and is fresher than produce trucked from farther away. Buying local supports small farmers. Also, shipping food over shorter distances saves fuel.

Free Range

Used for poultry, these terms are misleading. Even if the chickens aren’t in cages and are technically allowed to walk around, the space in which they are confined is a crowded indoor shelter with no room to walk. If they do walk, they are forced to step on another bird, so this can hardly be called “freely ranging.” Access to sunlight is usually minimal, less than 30 minutes a day. Often, the birds are exposed solely to artificial fluorescent lighting.

If these terms are used for eggs, typically the laying hens are kept in cages. However, the yolks of true free range (or cage free) eggs have a deeper yellow or gold color than the yolks of factory farmed eggs. Free range yolks are also firmer, and sit higher after being poured from the shell. The shells may be harder, due to increased calcium levels.

Cage Free

Although the birds aren’t in cages, their living conditions could still be crowded—similar to free range (above).

When Organic Isn’t Necessary

It’s very expensive in the United States to certify food as organic, so not all naturally-grown food is certified. However, even though uncertified food cannot legally be called organic, it can still be clean.

Some foods labeled “organic” provide little or no advantage. For instance, virtually all imported olive oil is clean. In sunshine-filled Greece and Italy, farmers would never dream of spraying their crops (nor would they have any “need” to do so).

Today, on this heavily polluted planet, even organically raised produce contains some pesticides. Toxic pesticides are now found in the fat of sea mammals at the formerly pristine North Pole; so there is no completely clean animal, plant, soil, water, or human being anywhere in the world. The best we can do is to eat the cleanest food as much as possible.

The Most Heavily Sprayed Fruits and Vegetables

The samples tested in the left hand column were scored according to *how many* contained detectable pesticides, the average *amount* (in ppm) of all pesticides found, and the *number of total pesticides* found on the crop. It's unclear how the right hand column was scored. Unfortunately, available data for 2017 lists fewer crops than in 2006. Incidentally, according to a 1992 EPA journal, only one-tenth of one percent of a given pesticide, sprayed onto a crop, reaches its original target. This means that the air is constantly saturated with pesticides, which we breathe.

Highest to lowest load, 2006	Highest to lowest load, 2017
Peach	Strawberry
Apple	Spinach
Sweet Bell Pepper	Nectarine
Celery	Apple
Nectarine	Peach
Strawberry	Pear
Cherry	Cherry
Pear	Grape
Grape, imported	Celery
Spinach	Tomato
Lettuce	Sweet Bell Pepper
Potato	Potato
Carrot	Grapefruit
Green Bean	Cauliflower
Hot Pepper	Cantaloupe
Cucumber	Kiwi
Raspberry	Honeydew Melon
Plum	Eggplant
Grape, domestic	Mango
Orange	Asparagus
Grapefruit	Papaya
Tangerine	Sweet Pea
Mushroom	Onion
Cantaloupe	Cabbage
Honeydew Melon	Pineapple
Tomato	Avocado
Sweet Potato	Sweet Corn
Watermelon	
Winter Squash	
Cauliflower	
Blueberry	
Papaya	
Broccoli	
Cabbage	
Banana	
Kiwi	
Sweet pea, frozen	
Asparagus	
Mango	
Pineapple	
Sweet Corn, frozen	
Avocado	
Onion	

—adapted from Organic Consumers Association, 2006
foodnews.org/walletguide.php (left hand column)
 and
 Environmental Working Group, 2017
ewg.org/foodnews/guide.php (right hand column)

All Natural

This is not a legal term, but a huge consumer scam. To most people, the rosy-sounding word *natural* conveys “being in nature,” with the image of an animal happily frolicking in the sun with the rest of its herd or flock—the very antithesis of factory farming. However, the food processor is not legally bound to adhere to such “natural” practices, and instead relies on the consumer’s imagination and desire to impart a positive meaning to the phrase. Note how many times you see “all natural” on a label.

Naturally Raised

This is not a legal term. Food processors deliberately use it, though, knowing that uninformed consumers will imagine barns of healthy, happy, chemical-free animals—the exact *opposite* of how these animals are actually being raised. Sometimes, cattle ranchers (to their detriment) use the term to mean *grass fed*, which is specific and has a much different meaning. See below.

Grass Fed

This pertains to cattle, calves, lambs, sheep, buffalo, goats, and other ruminant mammals (*ruminants* have compartmentalized, multi-chamber stomachs) that chew their cud. Note that grass cannot be certified organic. Because it’s difficult to prevent a grazing animal from seizing something from the earth that’s not legally labeled “organic,” meats designated “grass fed” cannot also be organic. However, in this case the label “organic” is no advantage. Organically raised animals are usually fed grain, which causes problems (see “Vegetarian Fed or Grain Fed,” next).

Grass fed meats are even better than organic meats. The animals are healthier and stronger because they’re raised outside in their native environment and allowed to graze.

As might be expected, grass fed cattle are also nutritionally superior than even their organic grain fed counterparts. They have one-third fewer calories than grain fed beef, and substantially greater amounts of many vitamins. Furthermore, the risk of bacterial contamination is very low in grass fed cattle. Numerous recent outbreaks of *E. coli* infections in meat were from cattle that were given grain, not grass. Grain causes an abnormal, and unfavorable, high acid pH in the first stomach. Because cattle don’t digest starch well, some undigested grain reaches the colon, where it ferments. This allows various acids to accumulate in the colon, and promotes populations of acid-resistant *E. coli*. A grass diet does not disturb the normal pH of the first stomach.

Make sure that your grass fed animal is not “finished” with grain. Just one day of consuming grain in a feedlot ruins the benefits of the animal’s grass diet.

Vegetarian Fed or Grain Fed

These phrases refer to chickens and turkeys, cattle, and (less often) lambs. The phrases became widely used after the heavily publicized outbreak of so-called Mad Cow Disease, a condition augmented or caused by feeding animals the waste products and diseased flesh of other slaughtered animals.

Vegetarian fed and *grain fed* presumably lessen consumer fears of contracting the disease. However, problems arise when animals are fed grains—both for the animals, and the humans who eat them. Unless the grains are certified organic, they are at best loaded with pesticides, and at worst genetically engineered (and loaded with even more pesticides). Another problem is that cattle, bison, goats and sheep are designed to eat fibrous grasses, not starchy low-fiber grain. When ruminant animals are grain fed rather than pasture fed, the naturally (desirable) acidic pH of their first stomach is disrupted and becomes too acidic. This makes them more prone to *E. coli* infections and other diseases. Grain fed mammals also have much lower levels of many vitamins than animals allowed to eat grass.

Finally, grain fed mammals develop an abnormal amount of fat—and along with the extra weight, an unbalanced ratio of the different types of Omega fats in their bodies (discussed in a moment). Cattle, sheep, buffalo, goats and other animals are not evolutionarily designed to eat grain. Grain disrupts the animals’ metabolism, as well as the metabolism of the humans who eat them. Insulin production abnormally escalates, which in turn raises the overall fat content in the animals. Every cattle rancher knows that *grain puts weight on the animals*. The heaviest animals bring the most money, so cattle fed mostly on hay (for convenience) are fattened up on grain for a few days or weeks just before they’re slaughtered.

The increase in fat is more than cosmetic. In animals fed grain for any period, the thick white fat marbled throughout the flesh contains an approximate 30:1 ratio of Omega 6 to Omega 3 fats. (There are different types of fats, which perform different functions. Among other features, Omega 3 fatty acids are anti-inflammatory.) The typical American diet contains from 10 to 30 times more Omega 6 fatty acids than Omega 3. But a healthy diet should consist of no more than 3:1 of Omega 6s to Omega 3s—or even equal amounts of each. Because Omega 3 fatty acids cannot be made by the body and must be obtained from food, this imbalance may contribute to the rising rate of inflammatory disorders in the United States. When we eat these animals, we eat what they ate. And we are affected just as if we had been fed grain. I will say much more about grain later in this chapter.

Chickens, turkeys, ducks and birds in general do require starchy grains and seeds in their diet. However, they are also

Beware of Foods Imported from China

Even if they're labeled organic, foods from China are usually loaded with toxic metals. This is due to decades of waste run-off from excessive mining and industry. One-fifth of China's arable land—and quite a lot of its water—are polluted with arsenic, cadmium, lead, mercury, and nickel. Heavy metals are poisonous. They cause unlimited problems with digestion, the brain and nerves, the liver, and the kidneys. The metals build up in the body and can be difficult (although not impossible) to remove. In China, the manure that's allowed to be used on organic produce often contains high levels of toxic metals as well. So, organic produce from that country can actually contain more heavy metals than food that's conventionally grown almost anywhere else.

Usually, the food label will read "China." But sometimes, you'll see "PROC." Don't be fooled. This acronym stands for "People's Republic of China."

designed to live outdoors so they can scratch and peck for grubs and insects that live on or in the ground. Inherently, chickens and other birds are not vegetarians. They need the additional protein that bugs provide. So, when a label proclaims that your chicken was fed an all-grain diet, be aware that this isn't its natural diet—and that because your bird has gained extra fat due to this diet, you might too. Genuinely free range chickens and other birds that are given access to open pasture, and are allowed to eat bugs and unsprayed fruit and vegetable scraps, have a much more nutrient-rich diet. You will too, if you eat such birds.

Pastured

Not to be confused with "pasteurized," *pastured* refers to birds that live in a portable enclosure that shelters them from the elements. The structure is moved once or twice daily to a new piece of pasture so the birds can forage for insects (which comprise 20% of their diet). Birds raised this way are much happier and tastier than free range. They are also much harder to find.

Animal-Compassionate or Humanely Raised

This relatively new term, which is not legally binding, is used to persuade consumers that the animals that provide their meals are being treated humanely. But what the consumer assumes, and how the animal raisers actually treat the animals, may be two different things. Personally, I think that the only compassionate way to raise animals is to give them sunlight, company of their herd or flock, ample space to exercise, the opportunity to forage, and (if necessary) supplemental food similar to what they would eat if allowed to forage for themselves.

Sustainable

This term, which is not legally binding, is now being used to reassure the consumer that the animals are raised in such a way that minimizes large accumulations of waste and has the least amount of negative environmental impact. But what the consumer assumes, and how the animal raisers actually treat the animals and the land, may be quite different. Optimal sustainability involves moving the animals around to graze and forage naturally; allowing the animals to fertilize the land with their manure, but at amounts that the land can process; avoiding chemical pesticides and fertilizers; and administering drugs to the animals only when absolutely necessary. If these guidelines are respected, respect for the animals will automatically follow. Many people with small farms are growing crops and raising animals sustainably, but lack organic certification because they can't afford the thousands of dollars necessary to meet the legal labeling requirements.

Another aspect of *sustainable* is the freshness of the product when picked or packed. This relates to the distance it must travel to reach the consumer. Sometimes, even if an item is not certified organic, the fact that it's locally grown—and therefore has not been shipped cross-country for thousands of miles in a refrigerated truck—gives it more nutritional value.

As it turns out, the most sustainable crops are those grown without pesticides or herbicides; and the most sustainable food animals are raised on their natural diets. Cattle are grass fed, chickens run around the outdoors and eat both plants and insects, and other animals are raised in their normal environment. The best way to obtain a diet that sustains life (yours!) is to know a trustworthy farmer.

High Brix

Although *Brix* (pronounced "bricks") is unknown to even most organic farmers, this unique method of growing and evaluating crops is superior to all other methods.

The practice was begun by 19th century German chemist A.F.W. Brix, who measured the percentage of solids in a few drops of freshly squeezed juice or sap from a live fruit, root, stem or leaf. The solids measured include not only fructose, sucrose and other sugars, but also flavonoids, amino acids, minerals, oils, and more.

The device used for modern measurement is called a *refractometer*. "When the drops fall on the prism," explains contemporary farmer Rex Harrill,

you close the cover plate to spread it out, and then look through the viewing end of the instrument, where you will see an etched scale generally calibrated in 0–30 degrees or 0–32 degrees Brix. Just as a pencil appears bent when placed in a

beaker of water, the light passing through the plant juice droplet is bent so that a clear line is shown against the scaled background. The amount of bending is directly related to the richness of the plant juice (richer juice bends the light more).⁶⁴

There is a direct and intimate connection between higher Brix numbers, high life force, concentrated nutritional value, and superior flavor. Not surprisingly, these qualities indicate a rich mineral content in the soil. A Brix measurement considered excellent begins at 12 to 14, although measurements as high as 28 Brix have been recorded. Harrill says:

To me, Brix is a measure of energy. A high-Brix plant emits a far superior energetic electromagnetic spectrum than a low-Brix specimen. Insects “see” in this range and they “attack” plants with the weakest emanations. . . . All that talk about how healthy plants “resist” insects is really another way of saying that *the strongest plants don’t attract insects in the first place*. . . . A refractometer is merely a way for us to see by proxy what insects see with their eyes. [emphasis added]⁶⁵

High Brix plants are vibrant in color, have wonderful flavor (and are naturally sweet), contain abundant nutrients, and are resistant to insects, weeds and disease. They’re also resistant to rotting: Brix experts state that high Brix plants may dehydrate in storage, but will not rot. Low Brix plants are more muted in color, have bland flavor (or are sour or bitter), are nutrient depleted, and are susceptible to insects, weeds and disease. This includes rotting. (A plant with slime or mold on its surface is also rotten on the inside, even if you can’t see the rot; so it’s best not to eat the fruit or vegetable at all.)

The enhanced mineral content of high Brix plants makes the fruits and vegetables structurally different as well. For instance, a healthy orange, lemon or grapefruit has a thinner rind. Comparing two bushels of grain that have identical volume but different weights, the heavier one has more nutrients and higher Brix readings. Nutrient-dense, high Brix vegetables have a natural waxy coating on them (not the synthetic paraffin that some growers add after the produce is picked). Low Brix peaches and plums have a split pit. Low Brix vegetables are somewhat dry and hollow inside (probably indicating a boron deficiency). Potatoes with sunken eyes may be deficient in manganese.

To grow high Brix crops, the soil must be healthy. Brix readings improve when the pH of the soil is balanced. The ideal pH for almost all crops is 6.4, which requires a proper mineral ratio. There are many ways to improve the soil: most often, with high-calcium lime, and other

beneficial natural soil foods including powdered fish, seaweed, and additional sources of phosphorus, nitrogen and potassium. Friendly soil bacteria are also needed. The plants rely on bacteria to break down the rock, which allows the minerals to be utilized.

An estimated 90% to 95% of produce obtained from ordinary commercial channels is fairly low Brix. Although growing high Brix crops requires more effort and care, and perhaps a greater initial financial investment, the returns are immense. You eat less because the food is so nutrient-dense. Better nutrition means that you will be healthier. And being healthier means saving money on doctor visits, not to mention having a better earning potential. You’ll also buy fewer nutritional supplements, because the foods you eat will provide the necessary nutrition.

High Brix affects both the plants and the humans and animals that eat them. Studies show that cows eating high Brix grass and hay consume half of what they’d normally consume. They also produce more milk, which is yellow in color (probably due to a higher beta-carotene content).

If you garden or farm organically, you’re already familiar with the importance of not using pesticides. Nourishing the soil for optimal nutrition seems like the logical next step. Sources of refractometers and information on Brix are not common, so you’ll have to do an online search (also see Appendix A).

Obtaining a high Brix measurement in plants can be compared to obtaining a clean live blood analysis in a human. A healthy live blood reading shows perfectly formed, round red blood cells that are separate and distinct; viable functioning white blood cells; and no waste material in the plasma. People who get the nutrients they need have a better chance of remaining healthy. If you give a plant the nutrition *it* needs, it will remain vital. Sick humans attract pathogens. Sick plants attract insects. Whether you’re attracting harmful microorganisms or insects, both indicate a similar deficiency. They’re the human and plant equivalents of being malnourished and ill.

High Brix plants are organic even if they lack a legal certification. A plant cannot be high Brix if it’s loaded with pesticides, herbicides, and synthetic fertilizers. Ideally, all crops should be picked at the peak of their ripeness; and Brix crops would maintain their freshness longer. (They might also be locally grown.) As mentioned earlier, the US government and agribusinesses are trying hard to undermine the standards by which a plant or animal is legally allowed to be certified organic. However, establishing a separate, non-governmental network of Brix farmers may be the answer to various efforts to undermine the organic certification.

Brix holds great promise as the new way to determine crop health—and by extension, human health as well.

Carbon Monoxide, Glue, and Now ... More Bacteria in Our Meat

Supermarkets that sell meat face two major problems: keeping it fresh (as meat easily grows bacteria), and preventing it from turning brown (meat normally turns brown from exposure to oxygen before it spoils from bacteria). It's bad enough that stores must throw away bacteria-filled meat that has passed the expiration date, but they must also throw away billions of dollars worth of meat that has become discolored but is still presumably fresh.

The solution? Gas and glue. FDA-approved carbon monoxide gas is pumped into meat packages to preserve the bright pink color, which now lasts for several weeks. Industry claims that the gas is harmless at the levels used. However, consumers are worried because old product that has spoiled still *looks* fresh, even if the meat's riddled with bacteria. In response, industry lawyers have reassured consumers that they'll be able to tell if meat has spoiled if the package bulges, has an odor, and has formed slime. (Somehow, consumers are not reassured.)

If carbon monoxide-filled meat doesn't have to be labeled, how can you tell if your meat has been gassed? Examine the packaging. Normally, the plastic wrap used for packaging is thin, and clings to the meat. But when carbon monoxide is used, a thicker plastic is required to keep the gas from escaping. The wrap won't cling because the gas has to circulate over the surface of the meat in order to do its job.

But wait . . . You must also make sure that your meat doesn't contain glue. Trimmed scraps, older meat, and inferior cuts that nobody wants can be saved if they're glued together. The glue used on meat is a powder called *transglutaminase*, produced by fermenting certain strains of bacteria. The glue is mixed into the meat, water is added, the mass is shaped and sealed in a vacuum bag under pressure, and presto! The meat waste has just been transformed into a nicely-shaped piece that looks like a fancy (and expensive) filet mignon. The bond between the meat scraps is permanent and nearly invisible.

The FDA lists transglutaminase as GRAS, or "Generally Recognized As Safe." The problem is, just as with the cosmetic carbon monoxide treatment, gluing meat can promote huge levels of bacteria. Cooking a piece of real meat kills the bacteria that normally accumulate on the outside, and the inside is fairly safe. But glued meat contains a lot of "outside" pieces that had been exposed to air and thus grew bacteria. Cooking a rare or medium rare pretend "steak" will kill the outside bacteria, but the inside bacteria will not be cooked; they'll remain intact.

The solution? Buy grass fed, from a trusted source.

Staples

At some point in their lives, our great-grandparents or grandparents who subsisted on a limited income may have grappled with the problem, "What is there to eat?" Their children (our grandparents or parents), who became more affluent, had the luxury of musing, "What shall I eat?" Today, with the worldwide rise in obesity and (legitimate) escalating concerns about food safety, many of us are wondering, "What *can* I eat?"

It's assumed that the foods discussed below will be the cleanest possible. If they might be adulterated in some way, I'll explain how, so you can decide if you want to eat them or avoid them. Obviously, I am unable to list all foods grown or raised everywhere. I speak from my own perspective, based on what is available in North America.

Red Meat

This category includes all mammal meats: the more domesticated animals including cattle, lamb, goats and pigs; game animals such as bear, boar, buffalo, deer and elk; leaner, less common meat such as ostrich; and beefalo, a cross between a cow and buffalo (obtained through ordinary animal breeding techniques).

North Americans are used to eating beef, but lamb is an excellent alternative, as these animals are naturally grass fed. Goat is similarly safe, although it's often hard to find.

There's some debate about the wisdom of eating meat from pigs, especially as some researchers have easily grown the cancer virus on pig meat. This may be the origin of the prohibition against eating pig in some religions such as Judaism and Islam. Pork especially should be cooked at temperatures high enough to kill *Trichinella spiralis*, a roundworm that causes all sorts of symptoms due to its ability to burrow into the gastrointestinal and respiratory tracts, muscles (including the heart), and nerves. To avoid contracting trichinosis, cook the meat thoroughly to temperatures of at least 160°F (Fahrenheit), which is 71.1°C (Celsius). Freezing at temperatures below 21°F (minus 6.1°C) for about a week kills the larvae.

Canned meat retains much of its food value, but cans are problematic because they can outgas toxic metal particles. Also, it's hard to find canned meat products that don't contain chemicals.

Poultry

This includes chicken, duck, turkey, goose, Cornish hen, quail, squab (young pigeon), and pheasant.

A grain diet can adversely affect an animal in similar ways that it affects humans: by raising the animal's insulin production and thus raising its overall (non-beneficial) fat content. Organically raised chickens are confined

indoors more than their outdoor, free range counterparts. Outdoor birds cannot legally be certified organic because their feed can't be controlled (they scratch for their food and eat insects). However, they have a more natural diet than organically raised chickens. And they taste better.

Eggs

Eggs are among the best protein sources, with a very balanced profile of amino acids (the building blocks of protein). Eggs do contain cholesterol, but their negative publicity is undeserved. The lecithin in the egg yolk helps the body digest the cholesterol (which is also in the yolk)—and anyway, most cholesterol is produced by the body and is unrelated to dietary intake. Eggs do not cause cholesterol to form in the arteries. Studies that presumably proved this were financed by the cereal companies, and used *powdered* (fake) eggs. Unfortunately, once those studies were conducted, the myth that eggs are harmful has remained somewhat fixed in the public's consciousness. It's always worthwhile to find out who conducts and finances studies before believing the results.

The best eggs to get are direct from the farmer; if not farm-fresh, then organic. Store eggs labeled "high in Omega 3 fats" may not be as beneficial as the labels suggest, as the hens are fed poor-quality, oxidized sources of Omega 3 fats, and their eggs may spoil quickly.

If you're lucky to find someone who will sell eggs fresh from the hen, it's best if the eggs aren't washed, even if they have dirt and debris on the outside. Eggshells are naturally coated with a protective antibacterial film that dissolves once the egg is washed. Commercial eggs are dipped in a bath of chlorine, so it's best to avoid them if possible. A truly fresh, unwashed egg actually keeps better—outside the refrigerator! That is why, in Europe, it's against the law to wash eggs, and people never have to refrigerate them. If an egg is fresh, when you roll it across a table at room temperature it will be wobbly while it moves.

On his natural health website, Dr. Joseph Mercola advises not to eat an egg if the white is watery instead of gel-like, if the yolk is not firm, or if the shell is cracked or porous. Immersing the egg in salted water will elicit bubbles if the shell is damaged. He also advises:

Be aware that controlled diets of only raw egg whites can lead to severe biotin deficiency. When you consume raw egg white alone, without the yolk, a component in them called avidin binds to the B vitamin biotin, potentially creating a deficiency in your body. . . . Egg protein is easily damaged on a molecular level, even by mixing/blending. If you choose not to eat your eggs raw, cooking them soft-boiled would be your next

best option. Scrambling your eggs is one of the worst ways to eat eggs as it actually oxidizes the cholesterol in the egg yolk. If you have high cholesterol this may actually be a problem for you as the oxidized cholesterol may cause some damage in your body. . . . Heating the egg protein actually changes its chemical shape, and the distortion can easily lead to allergies. If you consume your eggs in their raw state, the incidence of egg allergy virtually disappears.⁶⁶

Another reason that many people are allergic to eggs is that pathogens for vaccines are often grown on egg cultures. Egg allergies were rare until people started being inoculated. Also, chicken eggs are used to prepare vaccines. Duck or even emu eggs may not be problematic.

If you boil your eggs, don't overcook the yolks. The greenish ring around the yolk in hard boiled eggs indicates that the yolk proteins have degraded from being heated too long. Cover the eggs with water. Bring the water to a boil and remove the eggs from the heat. Let them sit, covered, for 10 to 13 minutes depending on the size of the egg. This will keep the yolks intact. Plunge the eggs into cold water afterward to remove the shell more easily.

Fish and Seafood

There is an amazing variety of fresh and salt water finned fish and shellfish. However, due to over-fishing, some species are becoming scarce. Fish are especially valued for their oils, a perfect food for the brain and nervous system, heart, and kidneys. Oils chemist Udo Erasmus states, "The warmer the water is that the fish swims in, the lower the oil content. So, Atlantic herring cooled by the Arctic current have 11.3% oils, while Pacific herring warmed by the Japanese current have only 2.6% oils."⁶⁷

If our planet were uncontaminated, all types of fish would be safe to eat. However, toxins are commonly stored in the fatty tissues of both humans and animals. Pregnant women who eat contaminated fish pass the toxins through the placental barrier directly to the baby. Fatty deep-water fish, such as swordfish and most tuna, are caught in polluted waters that contain high levels of mercury. Farmed salmon contains high levels of persistent organic pollutants (POPs), as well as carcinogenic polychlorinated biphenyl (PCB) at levels eight times higher than in wild salmon.

We must be careful about what fish we eat, and how much. One safety guideline is to eat smaller fish. Not only do they have shorter lives, but being lower on the food chain, they eat plants and smaller animals that contain fewer contaminants. The specific guidelines below are from Environmental Defense, a 40-year-old organization devoted to solving urgent environmental problems.

- ◆ *Safest.* Fish that can safely be eaten more than once a week are anchovies, Atlantic butterfish, Atlantic herring, oysters (farmed), mackerel, Alaskan sablefish (black cod), *wild* Atlantic salmon, canned pink or sockeye salmon, sardines, and squid. The following are noted by other sources as provisionally safe (young children may eat these fish no more than once a week): black sea bass, haddock, hake, Pacific cod, yellowtail flounder, Pacific whiting, shad, and sole.
- ◆ *Reasonably Safe.* Abalone, striped bass, Arctic char, bay scallops, catfish, caviar, clams, blue mussels (farmed *and* wild), sturgeon, and shrimp from the US. Also crab (Dungeness, snow from Canada, and stone), crawfish, Pacific halibut, lobster, Atlantic mahi-mahi, shrimp from Canada, spot prawns, and tilapia.
- ◆ *Somewhat Safe.* Atlantic cod, Atlantic halibut, monkfish, skate, snapper, and tilefish.
- ◆ *Unsafe.* Grouper, marlin, orange roughy, Pacific rockfish (rock cod), farmed Atlantic salmon, Chilean sea bass (toothfish), shark, wild sturgeon, swordfish, and bluefin tuna.

Canned fish retains much of its food value. However, it often contains preservatives and texturized vegetable protein (TVP). In the body, TVP breaks down into poisonous glutamic acid, the so-called “active” ingredient in monosodium glutamate (MSG), discussed in detail shortly.

Dairy

This includes milk from cows, sheep, goats, buffalo, camels, mares, and other mammals. It also includes the butter, whey, cream, cheese, buttermilk, yogurt, quark, and other products made from their milk.

In Chapter 1, the damage to both cows and humans from recombinant Bovine Growth Hormone (rBGH) was explained in detail. As of this writing, the use of rBGH and Bovine Somatotropin (BST) has been banned in Canada, Japan and Australia, and by all 25 countries of the European Union. In the United States, some dairies refuse to use this synthetic hormone. The best way to avoid it is to either buy domestic products specifically labeled organic or BGH-free, or European cheeses, which never contain these hormones.

There’s another important feature of dairy products: raw versus pasteurized and homogenized. You are receiving only a fraction of what dairy foods have to offer if you’re not eating dairy raw, and from grass fed animals. In fact, you’re harming yourself *unless* you eat raw dairy. The pasteurization and homogenization processes damage milk in different ways. I’ll discuss pasteurization first.

Pasteurization involves heating the milk at a temperature of 145°F to 150°F (62.8°C to 65.6°C), and then cooling the milk to at least 55°F (12.8°C). The milk remains hot from 15 to 30 minutes. With “ultra-high temperature” pasteurization (UHT), temperatures are raised to 280°F (137.8°C) for at least two seconds. This supposedly extends the shelf life of refrigerated milk for six months.

All pasteurized milk is adulterated and dead; I would not use the word “food” to describe this fabrication. The stated purpose of pasteurization is to destroy germs that carry disease and to prevent milk from souring. But these goals aren’t achieved, as pasteurization kills beneficial as well as harmful bacteria. Normally, if raw milk is allowed to sit, the beneficial lactic acid bacteria will (desirably) sour the fluid, which makes the milk highly assimilable and even healing to the digestive tract. The fear that raw milk easily spoils contradicts the historical use of raw milk to preserve meat. For centuries, Arabs preserved meat in raw camel milk. People from Iceland preserved sheep’s heads in soured raw milk. In the United States, pioneers preserved meat in raw buttermilk and enjoyed meat all year round. The truth is, *it’s the heating that allows the milk to spoil, and to spoil more quickly*, because it escalates bacterial growth exponentially. The milk gradually turns rancid in a few days, and then decomposes. When raw milk is left alone at moderate temperatures, it simply ferments into a healthful, cultured product.

Note that pasteurization doesn’t remove dirt, and it doesn’t eliminate or immobilize the wastes that the bacteria produce. Thus, even organic pasteurized and homogenized milk can cause problems because it contains toxins along with the remains of the dead bacteria killed by pasteurization. Symptoms include indigestion, respiratory distress, excessive production of mucus, fatigue, brain fog, and muscle and joint pain.

Misinformation about raw milk being full of germs has been widely disseminated. Before the advent of high-tech pasteurization methods that ruined good milk, raw dairy was used as a tonic for hard-to-treat illnesses. Dr. Ron Schmid’s “Real Milk” website contains lots of interesting data. It also features excerpts from an article by a Dr. J. Crewe of the Mayo Foundation (forerunner of the famous Mayo Clinic in the US). The article—which was originally published in the January 1929 issue of *Certified Milk Magazine*⁶⁸ and quoted from the eighth edition of the medical text *Principles and Practices of Medicine*—summarized the therapeutic use of raw, butterfat-rich milk from pasture fed cows. Many diverse conditions were successfully treated with such milk, including hypertension and other cardiovascular conditions; nervous system ailments; nephritis and other

kidney problems; psoriasis; and tuberculosis. A Dr. Crewe presented his findings to the Minnesota State Medical Society in 1923. At that point, he had been successfully treating people with raw milk for 15 years. More current sources, including physician William Campbell Douglass and the Weston A. Price Foundation, cite the use of raw milk (and raw whey) in eradicating many diseases, including asthma, stomach ulcers and diabetes.

The high heat of pasteurization also destroys almost all of the crucial vitamins, minerals, enzymes, and other nutrients that make raw milk so healthy. In fact, the gauge of pasteurization's success is based on the destruction of enzymes! (See Insert on pages 302–305, “Comparison Chart between Raw and Pasteurized Milk,” to see what's destroyed as well as the effects of the destruction.)

For decades, the cattle dairy industry has called milk the perfect food due to its substantial calcium content. This may be the most popular selling point of milk, but ironically the heat of pasteurization makes most of the calcium unable to be dissolved, and hence unusable by the body. Not only is a calcium deficiency created—which can lead to soft, improperly formed bones and teeth—but the insoluble form of calcium can cause constipation and the formation of calcium deposits (stones) in the body.

Now let's discuss homogenization, which also damages milk. The milk is pumped at high pressure through a small opening to disperse the heavy, creamy fat molecules throughout the fluid. This makes the fat molecules smaller, and of uniform size and consistency. (Otherwise, the cream would rise to the top.) This process is not benign. Fats expert Mary G. Enig, PhD, writes:

There is a tremendous increase in surface area on the fat globules. The original fat globule membrane is lost and a new one is formed that incorporates a much greater portion of casein and whey proteins. This may account for the increased allergenicity of modern processed milk.⁶⁹

Detractors of raw milk associate it with unclean conditions. However, cows raised for raw milk are much more heavily inspected than cows raised on factory farm dairies. Raw dairy farmers must keep the cows, their living quarters, and the milking equipment scrupulously clean. Several people employed by commercial (non-raw) dairies have told me that they saw batches of processed milk with “unacceptable” levels of contamination made “acceptable” again because cleaner batches were added to the contaminated ones—thus bringing the total contamination levels within the range allowed by law.

The FDA works hard to prevent people from having access to raw milk. Some farmers in states that prohibit

raw milk sell cow shares. The shareholders visit the farm daily or weekly to fill their own containers with fresh milk. In response, FDA agents have trespassed onto several of these farms and confiscated the milk, even though the shareholder program is legal. One must ask, “Whose interests does the FDA really represent?”

Even though raw milk has been a beneficial staple in the diet of millions of people for centuries, not everyone can metabolize it. There are several possible reasons for this. First, people of Asian, Eastern European, Native American, and (in some instances) African ancestry lack the enzymes to digest cow dairy—probably because their forebears did not eat dairy as part of their traditional diet, and therefore never developed the requisite enzymes. In these cases, even the enzymes already present in raw milk are not adequate to help overcome milk intolerance.

People who negatively react to *lactose*, or milk sugar, can take a *lactase* enzyme supplement, which digests milk sugar. If the body's bile stores are depleted, fat-digesting enzymes can be taken. However, even supplementation may not be enough to restore tolerance. We know this thanks to recent research on proteins in milk.

Beta-caseins, the second most abundant proteins in cow's milk, are divided into two groups called *A1* and *A2*. Each has a different amino acid located at position 67 on the protein chain: *A1* contains histidine and *A2* contains proline. When the body breaks down the *A1* beta-casein, it creates an irritating fragment called *beta-casomorphin7* or BCM7, which is an opiate and oxidant. High levels of BCM7 are present in the blood of people with autism, schizophrenia, and possibly diabetes and heart disease. In contrast, *A2* doesn't irritate. It's the sole protein in goat, sheep, camel, yak, and human milks. It was also the sole protein in cow's milk until a mutation occurred in the bloodline of European cattle centuries ago. *A1* proteins are present in the milk of the majority of cows from Western countries, while *A2* proteins are in the milk of cows living in Asia, Africa, and portions of Southern Europe. Today, most dairies raise *A1* Holsteins, which are black and white. However, milk from most Jersey and Guernsey cows, and probably all Normande cows, is *A2*. Interestingly, it appears that all *A2* cows are brown. Some *A2* animals are now being bred in New Zealand, the US, and Australia. The only sure way to determine which proteins are in dairy is to conduct a DNA test on the cow.

People negatively affected by *A1* milk might be able to handle *A2* milk. Camel's milk has the reputation of containing beneficial anti-inflammatory compounds. As a general rule, milk from smaller animals is more easily assimilated by humans because the fat molecules are on a smaller (human) scale. Also, the nutrient proportions in

Comparison Chart Between Raw and Pasteurized Milk (from Grass Fed Cows)

Note: Feeding the cows exclusively grass, rather than grain, is as important as drinking the milk raw.

Nutrient	Role in Nutrition	Raw Milk	Pasteurized Milk
Proteins (general)	Amino acids comprise 75% of the body's dry weight, all but one neurotransmitter, 95% of hormones, and 100% of all protein. They govern and participate in every chemical reaction in the body.	All 22 amino acids are 100% available, including the eight essential amino acids.	The amino acids lysine and tyrosine are altered by heat with serious loss of metabolic availability. This results in making the whole protein complex less available for tissue repair and rebuilding. Disease indicates an abnormality of amino acid structure and function.
Caseins and Whey Proteins	Caseins comprise about 80% of the proteins in milk. They are reasonably heat stable and easy to digest. The remaining 20% of milk proteins are whey proteins. These are also easy to digest, but they are also very heat sensitive. Among the whey proteins are key enzymes, immunoglobulins (antibodies), metal-binding proteins, vitamin binding proteins, and growth factors. See below for a few specifics.	Available.	Caseins are mostly intact, but the co-factors needed to help digest them are not, making heat-treated milk difficult to digest. Most of the whey proteins are destroyed.
Immuno-globulins	This complex class of milk proteins called antibodies, which are inherently present in raw milk, render it less vulnerable to bacterial contamination. They also confer resistance to many viruses, bacteria, fungi and bacterial toxins.	All are available.	Nearly all are destroyed.
Nisin	A natural antimicrobial agent rich in amino acids, it is a natural antimicrobial agent used worldwide. Has been used since 1953 to control bacterial overgrowth in foods. It is produced by <i>Lactococcus lactis</i> , a beneficial bacterium naturally present in raw milk.	Available.	Destroyed. Pasteurization kills beneficial as well as harmful bacteria.
Lactoferrin	A protein, whose unique ability to bind to iron helps improve absorption and assimilation of iron. It also has antifungal, antibacterial, antiviral and anti-cancer capabilities because it deprives tumors and pathogens of iron, which they utilize for growth and reproduction. Stimulates immune cells to engulf pathogens and foreign materials. Also is a powerful antioxidant and anti-inflammatory agent.	Available.	When milk is pasteurized at the lowest possible heat, the lactoferrin appears to be intact. However, very high pasteurization temperatures (305°F or 151.7 °C), combined with high pressure homogenization, some or all of the lactoferrin is completely inactivated.

Nutrient	Role in Nutrition	Raw Milk	Pasteurized Milk
Enzymes (general)	A class of biochemicals, made from small chains of amino acids, that catalyze all metabolic and life processes without being used up in the process. Enzymes assist with everything from cellular growth to protection against infection.	All are available. There are over 60 known enzymes in raw milk.	Essentially destroyed. Pasteurization is in fact defined as succeeding according to the absence of enzymes. Among other disadvantages, the loss of enzymes prevents the assimilation of minerals.
Lacto-peroxidase	The second most abundant enzyme in milk. A strong antimicrobial agent in milk, saliva and tears. Inhibits the growth of <i>Salmonella</i> and other bacteria, yeasts, fungi, and viruses.	Found almost exclusively in the whey after cheese making; carbohydrate content about 10%.	Fairly unavailable after being heated.
Lysozyme	Enzyme. Can break apart cell walls of certain undesirable bacteria.	Available.	Reports are mixed. Sources either report destruction of this enzyme, or say that it appears to remain fairly intact.
Catalase	Enzyme. Helps prevent unwanted bacterial contamination.	Available.	Largely destroyed.
Lipase	Enzyme that helps digest fats.	Completely available.	Completely destroyed.
Lactase	Enzyme that helps digest lactose (milk sugar), the principal carbohydrate in milk.	Completely available.	Completely destroyed (some milk companies add it to the milk after processing). For almost half of the world's population whose digestive systems are completely or partially deficient in lactase (and who are said to be "lactose intolerant"), drinking pasteurized milk can cause diarrhea, bloating and cramping.
IgG, a.k.a. Enzyme Immuno-globulin G	Enzyme that inhibits rotaviruses that cause diarrhea in infants.	Completely available.	Partially destroyed. Johns Hopkins University discovered that raw milk contains 250% more of this enzyme than pasteurized milk.
Phosphatase	Enzyme essential for calcium absorption.	Completely available, and plentiful.	Completely destroyed.

Nutrient	Role in Nutrition	Raw Milk	Pasteurized Milk
Fats	Help metabolize protein and calcium, construction materials of cell membranes and hormones, chief foods of the nervous system and heart, provide energy storage and protection for organs, act as vehicles for fat-soluble vitamins. All natural protein-bearing foods contain fats. Fats cause the stomach to secrete the hormone CCK, which—aside from helping the body secrete digestive enzymes—sends a message to the brain when the stomach is full. The absence of fats in non-fat dairy products (as well as other fat-free foods) helps contribute to over-eating.	All 18 fatty acids metabolically available, both saturated and unsaturated fats. Fatty acid profile of Omega 6 fats to Omega 3 fats is pretty much a perfect 1:1 in grass fed cows.	Destroyed, including the 10 essential unsaturated fats. Fatty acid profile of Omega 6 fats to Omega 3 fats is almost 5.7:1 in grass fed cows. This means that there are almost six times more Omega 6 fats than there are Omega 3 fats, which is a very unhealthy ratio. Too many Omega 6 fats means more cardiovascular and metabolic diseases.
Conjugated Linoleic Acid (CLA)	Polyunsaturated Omega 6 fatty acid that raises metabolic rate, helps remove abdominal fat, boosts muscle growth, reduces resistance to insulin, strengthens immunity, and lowers food allergy reactions.	Available.	Mostly destroyed.
Vitamins, water-soluble	Help with tissue repair and maintenance on all levels. Number of functions is too long to list.	All are 100% available.	Water-soluble vitamins are affected by heat and losses can range from 38% to 80%. Vitamin C loss by itself usually exceeds 50%. At least one quarter of all B Vitamins are lost.
Vitamins, fat-soluble	Help with tissue repair and maintenance on all levels. Number of functions is too long to list.	All are 100% available.	Among the fat-soluble vitamins, some are classed as unstable and therefore a loss is caused by heating above blood temperature. The loss of Vitamins A, D, E and F can run as high as 66%.
Vitamin B12	One of many water-soluble vitamins. Mentioned separately because it is abundant in raw milk, and very difficult to find in vegetarian sources.	This vitamin is 100% available.	Largely destroyed.
Lactose (carbo-hydrate)	Lactose is the naturally-occurring sugar in milk.	Easily utilized during metabolism.	Pasteurization turns the lactose into beta-lactose, which is absorbed more quickly by the body and thus floods the system with too much glucose at once. May be the origin of higher than normal incidences of diabetes and hypoglycemia in those who drink pasteurized milk.
Minerals (general)	Major minerals include calcium, magnesium, phosphorus, potassium, sodium, sulfur and chlorine (the beneficial trace mineral, not the toxic chemical). There are at least 24 vital trace minerals.	All major minerals are 100% available. The trace minerals are also 100% available.	There are losses in other essential minerals, as one mineral usually acts synergistically with another element. Also, the loss of enzymes prevents the assimilation of minerals.

Nutrient	Role in Nutrition	Raw Milk	Pasteurized Milk
Calcium	Abundant in raw milk. Most noted for building bone and teeth, increasing bone density and lowering risk of osteoporosis and fractures in older adults. Aids in muscle contraction. Also assists with electrical conduction along nerves and blood clotting. Also fights cancers, especially colon cancer.	Available. In order to be absorbed, calcium must be balanced with the proper ratio of phosphorus and magnesium. These two other minerals are also available in raw milk.	Calcium is altered by heat and loss in metabolism may run 50% or more, depending on pasteurization temperature.
Phosphorus	Builds bones and teeth. Responsible for energy production, acid-base balance, proper metabolism, cell membrane function, and calcium absorption.	Available.	Completely destroyed.
Magnesium	Abundant in raw milk. Helps build bone and teeth. Aids in necessary muscle expansion. Also responsible for transfer of bodily fluids and alkaline balance.	Available.	Less available.
Bacteria (beneficial)	Some of the beneficial bacteria strains break down the milk fats. Others transform lactose (milk sugar) into lactic acid. Lactic acid improves absorption of calcium, iron and phosphorus, breaks up casein into smaller particles, and helps destroy pathogens.	Bacteria grow very slowly, because the friendly acid-forming bacteria—nature's antiseptic—retard the growth of invading pathogens. Raw milk usually keeps for several weeks when under refrigeration, and will sour instead of rot.	Beneficial bacterial are completely destroyed. Pasteurization does not prevent unwanted pathogenic bacterial from contaminating the milk after it cools.

Adapted from:

William Campbell Douglass, Jr. and Aajonus Vonderplanitz, "Supplemental Report in Favor of Raw Milk," a legal document sent by attorneys Arlene Binder and Roger Noorthoek to each Los Angeles County Board of Supervisor, posted at karlloren.com/aajonus/p15.htm (April 7, 2007)

Additional material gathered from:

Ron Schmid, "The Health Benefits Of Raw Milk From Grass Fed Animals" (part of a project of the Weston A. Price Foundation, A Campaign for Real Milk: Pasture-Fed, Unprocessed, Full Fat), posted at w.realmilk.com/healthbenefits.html (April 7, 2007)

"Lactoperoxidase, Review of Biological Properties through 1997," at fst.osu.edu/People/HARPER/Functional-foods/Milk%20Components/Lactoperoxidase.html (April 7, 2007).

Benbrook, et al, "Enhancing the fatty acid profile of milk through forage-based rations, with nutrition modeling of diet outcomes." *Food Science and Nutrition*, February 28, 2018.

smaller mammals more closely resemble those of human milk. For instance, in cow's milk, its much higher ratio of phosphorus to calcium compared to human milk may actually prevent the absorption of calcium in humans who consume bovine dairy products. Note that the minerals magnesium and boron, as well as Vitamin D3, help with calcium assimilation. Raw milk contains all of the nutrients necessary to utilize calcium; adulterated milk does not. People who cannot tolerate even raw dairy can obtain calcium from leafy green vegetables.

Some dairy intolerant people might be reacting to what the animal ate, or even the bromine solution that many dairies use to wash the cow's udders (although it's unlikely that a raw dairy would use toxic bromine). Sometimes, people otherwise intolerant of dairy can handle *fermented* milk products: crème fraîche, yogurt, kefir, buttermilk, and sour cream. Through the process of fermentation, beneficial bacteria predigest the food, thus rendering it more easily absorbed. (By the way, food *intolerances* vs. food *allergies* both reveal negative reactions to food. However, an allergic response features an immediate production of immune-related *antibodies* to food that's perceived by the body as a foreign invader.)

To summarize: Pasteurization and homogenization destroy most of the enzymes, vitamins, and minerals that make milk nutritious and digestible. The nutrients in raw milk and raw whey (from grass fed cows) have helped many adults and children recover from a variety of illnesses including asthma, chronic fatigue, and recurring infections. If you can't obtain raw dairy products, avoid homogenized or ultra-pasteurized dairy products; many organic dairy farms now carry non-homogenized milk, cream, and yogurt. Some people who cannot tolerate even raw grass fed dairy from cows do tolerate dairy from fermented milk or A2 animals of all types, whose protein chains don't create toxins.

Vegetables

This broad category includes leaves, stems, the tops and roots of a plant, and in some cases even seed pods. All these different plant parts have been classified as a "vegetable," even though they might have radically different properties.

Leaves include arugula, bok choy, Brussels sprouts, cabbage, chicory, dandelion, escarole, kale, lettuce, mustard greens, spinach, and watercress.

Stems (stalks) include celery, leeks, chard, broccoli stalks, rhubarb, and scallions.

Roots (tubers) include carrots, beets, parsnips, radishes, potatoes, yams, sweet potatoes, and taro.

Sometimes we eat the unopened flowers, although we might not think of it in those terms. This includes broccoli and cauliflower, whose flowers are eaten with the stalks.

Other vegetables we call herbs: the tops of roots, such as parsley and cilantro. We also eat gourds (cucumber, okra and squash), seed covering crops (green beans and bell peppers), and crops technically classified as fruit but eaten as vegetables, such as tomatoes, avocados and lemons.

Vegetables in the *Solanaceae* family, a subset of nightshades, encompasses thousands of vines, trees, herbs, and shrubs. They include the poisonous inedible deadly nightshade (*Atropa belladonna*), which, if just rubbed on the eyelids, can cause death. Tomato, white potato, eggplant, goji berry, ground cherry, cape gooseberry, tobacco, tomatillo, and sweet and hot peppers (bell, chili, cayenne, and paprika) are also in the *Solanaceae* family.

The most well-known nightshade alkaloid is *solanine*. It takes one to two months for the body to excrete half of the solanine that's been ingested. *Solanaceae* plants also contain nicotine (*Nicotiana tabacum*). Another toxic compound is calcitriol—a different, and much more potent, form of Vitamin D than the D3 created by the body. Naturopath Garrett L. Smith reports that although some calcitriol (which maintains proper bone density) is produced by the body, too much calcitriol from *any* source causes hypercalcemia (high blood calcium). To normalize blood calcium levels, the body deposits the extra calcium in the soft tissues, which build up over time in the cartilage, heart, kidneys, ligaments, skin, and tendons.

Nightshade ingestion can exacerbate or cause muscle pain and stiffness, joint pain and cracking, insomnia, indigestion, acid reflux, nausea and vomiting, cardiac arrhythmia, neurological disorders, general inflammation, and even scleroderma (hardening of connective tissue in the entire body). Many disease conditions—osteoarthritis, gout, rheumatoid arthritis, coronary artery disease, and bone spurs—are related to nightshade poisons that accumulate in tissues and joints. In a study published in *Journal of Neurological and Orthopedic Medical Surgery*, symptoms of more than 70% of the test subjects with rheumatoid arthritis were substantially relieved when nightshade foods were eliminated from the diet.⁷⁰

People susceptible to nightshade-related conditions cannot completely detoxify nightshade compounds due to weakened liver and kidneys. Deficiencies in magnesium and Vitamins D3 and K2 also play a role. The high heat of cooking reduces nightshade alkaloids by only half (if that much); so if you eat nightshades, take extra nutritional supplements, and/or eat the nightshades with fatty grass fed meats, oily fish, butter, and/or cheese. If potatoes contain green parts, discard them; don't simply cut off the green and assume that the rest is okay. Green potatoes and potato sprouts shouldn't even be given to livestock. As for tomatoes, they can cause the most damage if they are eaten unripe, or in concentrated amounts (like sauce).

Sweet potatoes, part of the morning glory genus, belong to the immense *Solanaceae* family of plants. However, I'm unaware of nightshade-intolerant people—who are adversely affected by tomatoes, peppers and eggplant—who also react negatively to sweet potatoes. Not all *Solanaceae* plants share the same characteristics.

An entirely different class of vegetables called *goitrogens* includes members of the brassica family: arugula, bok choy, broccoli, Brussels sprouts, cabbage, cauliflower, collards, daikon and other radishes, horseradish, kale, mustard, canola or rapeseed, rutabaga, tatsoi, turnip, and watercress. Goitrogenous foods shouldn't be eaten raw by people with low thyroid function. They contain high levels of *glucosinolates*, which form compounds that interfere with the body's uptake of iodine. If the thyroid gland doesn't have enough iodine, it cannot produce thyroxine (a hormone) and won't function properly. Fortunately, you can disable the thyroid-lowering function of these vegetables through fermentation (as in turning cabbage into sauerkraut), or by cooking with high heat. According to studies, the cooking methods that decrease the glucosinolate levels are boiling, stir-frying, and steaming for longer than seven minutes. These vegetables contain many nutrients and are low in starch, so it's worth making the effort to prepare them properly.

Frozen and dried vegetables are almost as nutritious as fresh. Commercially canned produce has little nutritional value, and the cans are toxic (discussed shortly). However, home-canned produce packed in glass jars is safe.

Fruits

The many varieties include temperate-climate apples, pears, cherries, berries (blueberries, raspberries, blackberries, mulberries), figs, peaches, apricots, plums, and nectarines; and warmer-climate and tropical fruits mangoes, dates, bananas, lemons, papayas, oranges, grapefruit, and pineapples.

Despite fruit's fiber content, its high sugar levels are harmful to carbohydrate-sensitive and sick people (over half the population). Pathogens love sugar; so if you suffer from a chronic infection or degenerative illness, curtail your fruit intake until you're stronger. Also, be aware that a waxy coating is applied to many fruits to protect them during shipping; and the wax, unless specified as beeswax, is made from petroleum. Beeswax may be used more for organic fruits and vegetables, but it's inedible. Therefore, you may still want to peel the item before eating it.

Many growers pick the fruit before it's ripe (such as bananas). Then polyethylene gas is used to "ripen" the fruit after it's shipped. This is another reason to buy organic. I'll discuss fructose (fruit sugar) in detail shortly.

Legumes

The legume family includes peanuts, lentils, cashews (erroneously called "nuts"), green and yellow peas, and beans, which include adzuki, kidney, pinto, fava, white, lima, navy, and black. Most legumes (as well as grains and seeds) contain phytic acid. In the intestinal tract, phytic acid inhibits the activity of pepsin, amylase and trypsin, enzymes required to digest food. Phytic acid may also bind to proteins and especially minerals, lowering the absorption rates of calcium, magnesium, copper, iron, and zinc. The ability to break down phytic acid requires the appropriate intestinal flora, which most people lack.

Some beans contain large, complex sugars called oligosaccharides. Mammals do not produce the alpha-galactosidase enzyme, which is needed to break down these sugars. "When consumed," one writer states, "these oligosaccharides reach the lower intestine largely intact, and in the presence of anaerobic bacteria ferment and produce carbon dioxide and methane gases, as well as a good deal of discomfort, not to mention embarrassment in polite society."⁷¹ However, some of these complex sugars are valuable. Called "resistant starches," they act like fiber. They don't provide calories for the eater, but they are food for the beneficial intestinal flora that help us digest our food. Black (or turtle) beans contain more resistant starch than any other legume (26.9%), although white beans, navy beans, and peas also contain generous amounts.

Legumes (along with grains and nightshades) also contain sticky proteins called *lectins*. Lectins, which act as a natural insecticide to protect the plant, attach to the body's cells like glue—thus exacerbating, and even causing, autoimmune disorders among other conditions.

As with grains, legumes become more digestible if they are first soaked for 12 to 24 hours, and are then gently cooked for 4 to 8 hours, with an acid such as lemon juice or apple cider vinegar added to the water.

Soy is a legume that has become a staple in the diets of many vegetarians and health-conscious consumers. But to develop a market, the million-dollar soy industry has presented only partial truths, as well as outright falsified "research." See the Insert on page 308, "Soy: A Serious Non-Food." It cites websites that report how people's health has improved once soy was eliminated from their diet.

Seeds and Nuts

Seeds include pumpkin, flax, sunflower, and sesame seeds. Nuts include almonds, cashews, filberts, macadamia nuts, hazelnuts, pecans, walnuts, chestnuts, and coconuts. Most nuts and seeds contain over 50% fat. The inability to digest nuts may indicate a poorly functioning liver, which secretes bile to digest fats. (Nuts are high in fat.)

Soy: A Serious Non-Food

Soybeans are famous for their *isoflavones*, or *plant estrogens* (phytoestrogens). Due to their ability to mimic the natural estrogen in the human body, isoflavones disrupt hormonal functions by either excessively stimulating the body's estrogen receptors, or shutting them down. A May 31, 2001 press release from the National Institute of Environmental Health Sciences reported that infant mice given genistein (one of the isoflavones in soy) developed cancer of the uterus. This effect is similar to that caused by the synthetic estrogen DES, or diethylstilbestrol, which was once used to prevent miscarriage in humans (and to fatten animals). DES was taken off the market after it caused cancers in both mothers and offspring. However, soy is still used as food, despite ample scientific research showing its dangers.

Here are some more facts about soy, as reported by Kaayla T. Daniel in *The Whole Soy Story*, soy onlineservice.co.nz, and the Weston A. Price Foundation:

- ◆ Soy phytoestrogens may cause infertility and promote breast cancer in adult women.
- ◆ These same phytoestrogens cause premature sexual development in both girls and boys who eat it. Sometimes boys become so feminized that they grow breasts. (Usually the breast growth reverses once soy is withdrawn from the diet.)
- ◆ Soy contains the scientifically documented carcinogenic, DNA-damaging and chromosome-damaging natural chemicals genistein and daidzein.
- ◆ Soy phytoestrogens are potent anti-thyroid agents that cause hypothyroidism and may even cause thyroid cancer. In infants, consumption of soy formula has been linked to autoimmune thyroid disease.
- ◆ Soy contains high levels of trypsin inhibitors, which interfere with protein digestion and may cause pancreatic disorders. In test animals, soy containing trypsin inhibitors caused stunted growth.
- ◆ Soy contains high levels of phytic acid, which reduces assimilation of calcium, magnesium, copper, iron and zinc. The phytic acid cannot be neutralized by soaking, sprouting, or long slow cooking. High phytate diets have caused growth problems in children.
- ◆ Soy contains Vitamin B12 *analogs* rather than the vitamin itself. The analog latches onto cell receptor sites for B12; but because it's not the actual vitamin, it doesn't provide any of the benefits of real B12, and ultimately it creates a B12 deficiency.
- ◆ Soy foods increase the body's requirement for Vitamin D.

Soy proponents maintain that Asians have used soybeans for thousands of years. But the tiny legume originally used in Asia is quite different from its much larger, highly bred relative. Soybeans were planted mostly for animals to eat, and to put nitrogen back into the soil, because they are basically indigestible. Their high levels of enzyme inhibitors prevent the body from easily absorbing and utilizing calcium, magnesium, and zinc. When soy is processed, the high heat necessary to destroy the enzyme inhibitors also destroys some essential amino acids such as lysine. For these reasons and more, the original soy recipes from Asia *fermented the bean first*. Once fermented, the miso, soy sauce and tempeh—the only edible forms of soy—could be digested. In addition, these foods are used mostly as condiments, not as a main course or as meat substitutes.

In contrast to centuries-old, carefully fermented soy condiments, modern fake foods made from soy are unfermented and indigestible. As their labels indicate, the protein powders, imitation cheese, ice cream substitutes, meat-like cutlets, and even infant formula are made with denatured soy protein *isolate*. Any food that's an *isolate* is isolated, removed from its natural matrix. It's subjected to so much processing that it's no longer a whole food, but *fragmented*. On this basis alone, products made with soy protein isolate should be avoided. Soy protein isolate never received GRAS (Generally Recognized As Safe) status from the FDA as an edible food. It was approved, in 1959, solely as a binder for cardboard boxes.

The processing of most soy products creates:

- ◆ Denatured, fragile proteins, due to the high temperatures. (This especially pertains to the production of soy protein isolate and textured vegetable protein.)
- ◆ Toxic lysinoalanine and highly carcinogenic nitrosamines.
- ◆ Free glutamic acid or MSG, a potent neurotoxin.

Some women report feeling better when they eat soy. I personally knew two women who suffered from hormonal imbalances that eating phytoestrogens helped to correct. But I've also known many more people who have eaten soy and as a result, suffered from disrupted menstrual periods, diminished thyroid function, impaired memory, and premature aging. Vegetarians who insist on making unfermented soy a mainstay in their diet may be impairing their health and the health of their children.

Soy isn't suitable for everyday consumption. However, its ability to induce powerful hormonal changes potentially makes it a very helpful medicine if properly used. If you eat lots of soy, pay attention to how you feel and stop eating it if you don't feel well.

Opinions differ as to whether nuts should be eaten raw or roasted. For some people, raw nuts soaked overnight makes them more digestible. Sprouting liberates many valuable enzymes—after all, a sprout is the beginning of a vital, chlorophyll-rich green plant—although not all of the natural chemicals that are liberated in growing plant sprouts are beneficial for humans.

Almonds belong to the same family as apricots and plums. The seeds (kernels) inside the hard pits look and taste like bitter almond. Apricot kernels are the source of the anti-cancer drug Laetrile®—which G. Edward Griffin points out is basically Vitamin B17. The botanical relationship of almonds and apricots may explain why psychic Edgar Cayce advised in his famous nutritional readings that eating three almonds a day would prevent cancer. (Note, however, that bitter almonds, not the sweet ones, contain B17.) Almonds are also considered special because, unlike other nuts and seeds, for people of a certain metabolic type they help alkalize the system. These health benefits—and the FDA’s hostility toward natural health—may explain why the FDA passed a law requiring all almonds to be irradiated (the agency calls it “pasteurization”), thus rendering them lifeless, incapable of sprouting. Even though irradiated almonds contain no life force, they are legally allowed to be called raw.

Fats and Oils

Healthful fats have been eaten for thousands of years by native peoples adhering to traditional diets. They include animal fats, oils from coconut, olive and flaxseed (also known as linseed when used for industrial purposes), and raw butter. Animal fats and coconut oil can withstand fairly high heat. Butter and olive oil can survive moderate heat. Flax oil should be unheated, eaten fresh (as oil or as freshly ground seeds), and refrigerated.

Americans have been taught to fear dietary fat, evidenced by a glut of supermarket items peddled as “low fat,” “zero fat,” and “low cholesterol.” But these no-fat foods are unnatural. The right kinds of fat—saturated and unsaturated, some from vegetables but most from animals—are an essential part of the human diet. Fats lubricate the tissues, assist with metabolism, provide essential nutrients, and satisfy hunger. Fats provide the beneficial type of cholesterol that makes bile salts, hormones, and Vitamin D. Our heart and kidneys can’t survive without fat. Our nerve cells are coated with fat, which acts as insulation—similar to the rubber that surrounds electrical wiring (which is analagous to the nerve cells). If we don’t eat enough of the proper fats, the messages conducted along the nerves become scrambled due to poor insulation. Also, fats comprise over 70% of the brain. This helps us think, concentrate, remember,

Did you know that your heart uses *fat* exclusively as its source of energy? Now why would your heart only choose fat? It cannot miss a beat and needs a very reliable and optimum source of energy. Carbohydrates and glucose are *too unreliable* for your heart. Glucose is inferior for muscle power and only your brain is truly efficient at burning glucose as its source of fuel. Your brain is unique because it has the ability to utilize glucose without insulin being present. What this tells us is that the human body is a fat burning organism that is designed to operate on *small amounts* of insulin and carbohydrate.

—Jay Robb, *The Fat Burning Diet*, 1996

move, sense, and perceive correctly. The high amounts of fat in human milk help an infant develop properly.

If animal fats are so important in the diet, why are some people afraid to eat them? In “The Oiling of America” (some of it excerpted in the page 310 Sidebar, “The Truth About Canola Oil”), biochemical researcher Dr. Mary Enig and nutrition activist Sally Fallon describe how, over five decades ago, the “edible” oils industry deliberately generated negative publicity for animal fats and coconut oil to create a lucrative market for their own highly processed, fabricated vegetable oils. Enig’s research, showing the harm of processed hydrogenated fats, was deliberately falsified. The popular fiction that animal fat is completely saturated, is misleading and wrong. Beef fat is 54% unsaturated, lard is 60% unsaturated, and chicken fat is about 70% unsaturated.

Dietary fat does not automatically translate into bodily fat. It’s an excess of carbohydrates (sugars and starches), rather than unaltered fats, that leads to overweight (discussed later in this chapter). Note, for instance, that the diet of the Inuit (Eskimos) consists of about 80% whale and seal blubber.

What about oils designated “cold pressed”? This simply means that the oils have not been heated after being extracted from their source. But even vegetable oils labeled “cold pressed” heat up considerably as a result of the intense pressure—20 tons per square inch—needed to extract the oil in the first place. Compare the pressure required to squeeze oil from a hard seed or nut, to that needed for a fleshy olive or tiny soft sesame seeds! So, even though a vegetable oil may be processed without chemical solvents, artificial preservatives or *extra* heating, as soon as the now-hot oil is squeezed out of nuts and seeds, it starts to turn rancid. One such oil is canola.

Canola, grown extensively in Canada, has until recently been known as rapeseed. To make the oil more appealing to a mass market, Canadian scientists renamed the product. (Most sources cited the name as a shortened

form of “Canadian Oil Low Acid.”) The oil was developed using manual cross-breeding techniques on two related cruciferous plants, both known as rapeseed, to lower what was regarded as excessive levels of naturally-occurring erucic acid. Further attempts to alter canola were done by bombarding the seeds with radiation, a form of genetic engineering. Over 50% of today’s canola crop is genetically engineered by Monsanto, which automatically means that you’re ingesting huge amounts of the herbicide Roundup® with your food. Even if your canola oil is organic, it’s high in *glycosides*, sugar-related compounds that inhibit enzyme function and destroy the protective coating of the nerves.

This oil is widely marketed as healthy, and appears in the majority of products found in health food stores.

The coconut’s negative reputation is undeserved. Although coconuts contain up to 60% fat (of which over 90% is saturated), these fats are essential fatty acids (EFAs)—and thus mandatory for life processes. Coconut’s unique molecular structure of medium-chain fatty acids does not cause weight gain, as long as it’s not eaten in excess. Rather, the fat is highly digestible, sates the appetite, and helps burn body fat. Old studies linking coconut oil with high cholesterol, heart attacks, and other negative conditions were based on *adulterated coconut fat*

The Truth About Canola Oil

Canola oil is definitely not healthy for the cardiovascular system. Like rapeseed oil, its predecessor, canola oil is associated with fibrotic lesions of the heart. It also causes Vitamin E deficiency, undesirable changes in the blood platelets and shortened life-span in stroke-prone rats when it was the only oil in the animals’ diet. Furthermore, it seems to retard growth, which is why the FDA does not allow the use of canola oil in infant formula.

The animal studies carried out over the past twenty years suggest that when rapeseed oil is used in impoverished human diets, without adequately saturated fats from ghee, coconut oil or lard, then the deleterious effects are magnified. In the context of healthy traditional diets that include saturated fats, rapeseed oil, and in particular the erucic acid in rapeseed oil, does not pose a problem. In fact, erucic acid is helpful in the treatment of the wasting disease adrenoleukodystrophy and was the magic ingredient in Lorenzo’s oil.

High levels of Omega 3 fatty acids, present in unprocessed rapeseed oil, don’t pose a problem either when the diet is high in saturates. Rapeseed has been used as a source of oil since ancient times because it is easily extracted from the seed. Interestingly, the seeds were first cooked before the oil is extracted. In China and India, rapeseed oil was provided by thousands of peddlers operating small stone presses that press out the oil at low temperatures. What the merchant then sells to the housewife is absolutely fresh.

Modern oil processing is a different thing entirely. The oil is removed by a combination of high temperature mechanical pressing and solvent extraction. Traces of the solvent (usually hexane) remain in the oil, even after considerable refining. Like all modern vegetable oils, canola oil goes through the process of caustic refining, bleaching and degumming—all of which involve high temperatures or chemicals of questionable safety. And because canola oil is high in Omega 3 fatty acids, which easily become rancid and foul-smelling when subjected to oxygen and high temperatures, it must be deodorized. The standard deodorization process removes a large portion of the Omega 3 fatty acids by turning them into trans fatty acids. Although the Canadian government lists the trans content of canola at a minimal 0.2%, research at the University of Florida at Gainesville found trans levels as high as 4.6% in commercial liquid oil. The consumer has no clue about the presence of trans fatty acids in canola oil because they are not listed on the label.

A large portion of canola oil used in processed food has been hardened through the hydrogenation process, which introduces levels of trans fatty acids into the final product as high as 40%. In fact, canola oil hydrogenates beautifully, better than corn oil or soybean oil, because modern hydrogenation methods hydrogenate Omega 3 fatty acids preferentially and canola oil is very high in Omega 3s. Higher levels of trans fats mean longer shelf life for processed foods, a crisper texture in cookies and crackers—and more dangers of chronic disease for the consumer.

But most of the Omega 3s in canola oil are transformed into trans fats during the deodorization process . . .

At least it can be said that canola oil is a good source of monounsaturated fat—like olive oil—and therefore not harmful. . . . Or is it? Obviously monounsaturated fatty acids are not harmful in moderate amounts in the context of a traditional diet, but what about in the context of the modern diet, where the health-conscious community is relying on monounsaturated fats almost exclusively? There are indications that monounsaturated fats in excess and as the major type of fat can be a problem. Overabundance of oleic acid (the type of monounsaturated fatty acid in olive and canola oil) creates imbalances on the cellular level that can inhibit prostaglandin production. In one study, higher monounsaturated fat consumption was associated with an increased risk of breast cancer.

—excerpted from Sally Fallon and Mary G. Enig, “The Great Con-ola”
Wise Traditions in Food, Farming and the Healing Arts, Summer 2002

that was artificially manipulated to remove its EFAs. Natives living in the tropics who consume enormous amounts of coconut products have among the lowest rate of heart disease in the world.

The oil extracted from a coconut can tolerate high heat. Its naturally-occurring saturated fat enables the oil to resist high temperatures without being transformed into dangerous *trans*—short for “transformed”—fats (discussed in more detail later in this chapter). Incidentally, coconut is one of the few foods besides human breast milk that contains *lauric acid*. Lauric acid has potent antimicrobial properties, which suggests that coconuts may help those afflicted with infections—including cancer, *Candida albicans*, and HIV. Coconut *milk*—the watery, sweet, electrolyte-rich fluid inside the hard coconut shell—has a similar nutrient composition to human breast milk, which makes it suitable for nursing babies.

Flax contains estrogenic plant compounds, which may induce unwanted hormonal fluctuations in some people. Although flax is high in beneficial anti-inflammatory Omega 3 fats, the Omega 3s must be converted by the body before they can be used. Many people (and all dogs) lack the enzyme involved in this conversion. (The enzyme is impaired by elevated insulin levels, by the way.) Therefore, it may be best to obtain Omega 3s from animal sources. As for Omega 6 fats, they tend to be very common in the diet—most seeds and nuts contain generous amounts—so the 6s should be balanced with at least half their amount of 3s, and supplemented with Omega 9s (in olive, macadamia, and sea buckthorn oils).

The best fats have an impressive track record: grass fed animal fat, raw butter from the milk of grass fed animals, olive oil, and coconut oil. Fatty fish like salmon and tuna are problematic. They contain many healthful oils, but because they’re high on the food chain, they have ample time to absorb mercury into their fat. This is why many health professionals recommend that people take their fish oil in the form of capsule or liquid supplements that have been molecularly distilled to remove heavy metals.

The benefits of fish oil have been heavily debated in some circles. Biologist Ray Peat cites studies showing that even the freshest fish oil, with antioxidants added, is unstable and deteriorates within 48 hours. Peat asserts that although isolated fish oil may initially be helpful, over longer periods the oil destroys Vitamin E in the body and suppresses immune function. Are favorable-outcome studies on fish oil flawed because they weren’t conducted for long enough periods for researchers to see a marked increase in inflammatory diseases? Did the animals who enjoyed increased longevity live longer only because they were reluctant to eat the oil-laced food and therefore ate

less? Dr. Peat also reports that some animals fed fish oil developed malfunctioning T cells (immune cells from the thymus gland) that did not protect them from bacterial infections as well as coconut oil did. Nevertheless, many practitioners report huge benefits from fish oil; so if you take it, make sure it’s fresh. If you eat fatty fish, include plenty of vegetable fiber with your meal. The fiber binds to mercury in the gut, and is then excreted with the feces.

Some people are helped by an oil supplement made of krill (tiny shrimp), which is easily absorbed and contains high levels of antioxidants. However, as some whales depend on krill for their main diet, the large numbers caught for human supplementation may not be sustainable. An excellent source of Omega 3 fats is grass fed beef.

Grains

In most traditional cultures, wheat is not a staple. For starch, native peoples have usually eaten rice; maize (also known as corn); dried and pounded roots and tubers such as cassava (tapioca); or soaked, dried and ground seeds such as amaranth and teff. The most popular grains in North America are wheat, rice, rye, oats, barley and corn.

All grains possess an outer indigestible hull. This hull contains *phytic acid*, a naturally-occurring preservative that prevents the kernels (or “berries”) from rotting if they don’t encounter a favorable germinating environment. Phytic acid also binds to minerals in the intestinal tract, preventing them from being utilized. Enzyme inhibitors, which prevent germination under unfavorable conditions, impede digestion in those who eat the grains.

Another problem with grains (a good example of which is wheat) is that the hull contains anti-nutrients that induce the eater to defecate before the seed can be digested. The hull also contains *lectins*, which discourage bacteria, molds and animals from consuming the kernel so the seed can still germinate after years of dormancy. These lectins—which also, by the way, are present in legumes (peas, beans and lentils)—impair metabolism. Usually the damage isn’t detected until it’s severe and crippling.

All of these natural substances are biochemical defenses designed to ensure the survival of the plant. However, the very plant chemicals that allow a seed to grow are precisely what make it indigestible. Therefore, consuming the bran and germ means deliberately eating plant compounds that exist solely to irritate or poison predators. This is why some people soak grains overnight before cooking them. (Sometimes they sprout the seeds, which considerably lessens the amounts of anti-nutrients.) For other people, however, not even long periods of soaking the grains can neutralize or transform the injurious compounds enough to make the grains easy to digest or safe to eat.

Despite issues with the indigestible bran and hull, the natural foods movement routinely promotes whole, or *unrefined*, grains. *Refined* grains are stripped of the outer germ and bran, leaving only the starchy white center (endosperm). The absence of perishable ingredients—virtually all vitamins, minerals, delicate natural oils and fiber—allows refined grains to remain on a shelf indefinitely. This means they can't support life. In experiments with rats and other animals, they die quickly when fed a steady diet of refined grains. When humans eat refined grain, the body draws on its own store of nutrients to process the empty-calorie starch. Nevertheless, some people who react badly to whole grains can eat refined flours with no obvious ill effects—undoubtedly because they're avoiding the noxious chemicals in the hull and germ.

The apparent lack of symptoms when eating refined flour doesn't mean that it's good for you. Aside from the lack of nutrients, most commercial breads, cakes, pies, and pastas are made from refined wheat flour that's been bleached a dazzling white. The toxic bleaching agents (chlorine or nitrogen oxides, potassium bromate) combine with the few remaining proteins in the starchy endosperm to produce *alloxan*. Alloxan destroys the beta cells of the pancreas, making it impossible for the gland to produce sufficient insulin. "Scientists have known of the alloxan-diabetes connection for years," writes Dani Veracity. "In fact, researchers who are studying diabetes commonly use the chemical to induce the disorder in lab animals. . . . Even though the toxic effect of alloxan is common scientific knowledge in the research community, the FDA still allows companies to use it when processing foods we ingest."⁷²

All grains have a high carbohydrate content. They affect the body like sugar (see the next section on sweeteners), and wheat is the most harmful. Humans are biochemically more equipped to handle animal protein, roots, leaves and fruits than grains, as agriculture occurred much later in history than did hunting and the gathering of wild foods.

Many people suffer health problems especially when they eat wheat and its relatives. These grains contain storage proteins called *prolamins*, which are utilized by the plant when it grows. (Other grains contain different storage proteins that aren't as problematic.) Prolamins, soluble only in alcohol, can't be broken down by stomach acid and impair our ability to digest protein. *Gluten*, a glue-like complex containing the prolamin *gliadin*, is the best known toxic plant compound, although there are many more. Wheat, the most common grain in the world, contains the highest levels of gluten. It's also adulterated, and thus causes unlimited health problems (see Insert, "Wheat: Not a Healthy Choice").

Here are some popular grains and grain-like seeds. The first four contain highly problematic prolamins.

- ◆ *Wheat*. Contains the prolamin *gliadin* within the much larger *gluten* complex. There are many varieties of the *Triticum* or wheat family: spelt, kamut, durum, and frumento. Ancient heirloom varieties of wheat are einkorn (the original simple grain) and its more complex descendent emmerwheat. Farro is a dish containing the berries of these ancient varieties. (Wheat *grass* and barley *grass*—juiced for their chlorophyll and nutrient content—are not the grains, but the sprouted green grasses of the young plants. They don't contain prolamins during their first eleven days of growth.) Manufactured wheat products include pasta (compressed, usually refined wheat flour made into noodles of various shapes), orzo (rice shaped pasta), semolina (the starchy inner kernel of durum wheat), couscous (pasta made from semolina), farina (made from the starchy inner kernel, minus the bran and most of the germ), freekeh (roasted green durum wheat), and bulgur (boiled and dried). Wheat is also referred to as graham, cake flour, or simply "flour." Wheat-derived products include hydrolyzed wheat protein, wheat starch, and wheat germ. Seitan, prized by many vegetarians, is the most glutinous portion of the grain, processed into its stickiest possible mass and cooked to resemble meat.
- ◆ *Barley*. Contains the prolamin *hordein*. Products made from barley include "pearled" barley, barley malt (sometimes simply called "malt"), and beer.
- ◆ *Rye*. Contains the prolamin *secalin*. It's in the same family as wheat, although some people find it less problematic than wheat.
- ◆ *Triticale*. A hybrid of wheat and rye, triticale contains prolamins from both.

The following grains also contain prolamins, although they cause far fewer problems than those of the first group.

- ◆ *Oats*. Contains the prolamin *avenin* in very small amounts, which is well tolerated by most people.
- ◆ *Corn / Maize*. Contains the prolamin *zein*, which for some people is a problem. Different corn varieties have different amino acid profiles. Yellow and white corn contain high levels of arginine (which feeds the *Herpes* virus). Blue corn contains high levels of lysine (which inhibits *Herpes*) and low arginine levels. Some people who can't handle yellow or white can tolerate blue.
- ◆ *Sorghum*. Contains the prolamin *kafirin*. It may cause gut issues, though much fewer than those from gluten.

The following don't contain prolamins, although they do contain other (far less problematic) storage proteins.

Wheat: Not a Healthy Choice

Injurious, Not Essential

There's an old saying, "Bread is the staff of life." People "break bread" when they are invited to share a meal. The word "bread" suggests something so basic, it has even become a slang term for money. But is bread really as important as history claims?

Bread is indeed significant, but for different reasons than we might think. In the Western world, bread is synonymous with wheat. So are cake, pie, pastry, and pasta. However, according to many physicians' clinical experiences and solid scientific research, wheat is a poison. We can no longer ignore the compelling evidence of a long list of conditions that are exacerbated or (more often) outright caused by gluten and other toxic compounds. Let's first take a look at what wheat really is.

Botany Basics and the History of Human Tampering

Wheat is a grass, and the seeds on top of the grass stalks are what we refer to as "grains." Einkorn (*Triticum monococcum*), the most ancient wheat, was nothing like its modern counterpart. The DNA of einkorn was simple, containing only 14 chromosomes. Lacking the complex sticky proteins of modern wheat, einkorn could never have formed the breads, bagels, pastries and crullers that people love to eat today. In fact, bread made with einkorn was not only significantly less elastic and sticky, it was somewhat crumbly.

At some point einkorn either naturally cross-bred or was cultivated with goatgrass, an unrelated wild grass (*Aegilops speltoides*), to produce emmer wheat (*Triticum turgidum*). The DNA structure of emmer became slightly more complex, at 28 chromosomes, because unlike humans, animals and many other plants, when wheat is hybridized it *adds on* the genetic material of its "parents." For thousands of years, einkorn and emmer were popular until emmer wheat cross-bred—probably naturally, in the wild—with another type of goatgrass (*Triticum tauschii*). This birthed *Triticum aestivum*, which is genetically close to our modern wheat with a chromosome count of 42. This newer *Triticum* wheat had a much higher yield. It also contained stickier proteins, making it more desirable than einkorn and emmer for baked goods.

When pioneers brought *Triticum aestivum* from Europe to the Americas in the 1600s, wheat underwent another radical change, this time caused by humans. The settlers bred a plant that would survive extreme temperatures, resist drought and disease, and yield more per acre. The original tall grass, which had required a long maturation period, was now dwarf with a rapid growth cycle. In addition, its larger seeds, rather than clinging to their stalks, could be shaken off easily for harvesting.

The most radical alterations to *Triticum aestivum* began in the 1940s, when scientist Norman Borlaug spent almost two decades changing wheat's DNA structure to produce even greater yields. This modern wheat comprises 99% of wheat grown worldwide today, with thousands more genes than what existed in the original plant. In fact, modern wheat hybrids contain proteins that didn't even exist in its *parents* one generation ago! It shouldn't surprise us that these new proteins are biologically incompatible with the digestive tract, immune cells, cardiovascular structures, and every other system—not only in humans, but in animals too. Although the breeding was done manually, the effects were similar to those produced when plants are genetically engineered. Thousands of new strains of modern wheat have become integrated into our food supply, but none have ever been tested for safety. In *Wheat Belly*, cardiologist William Davis writes that:

the incredible financial bonanza that the proliferation of wheat in the American diet has created for the food and drug industries can make you wonder if this "perfect storm" was somehow man-made. Did a group of powerful men convene a secret . . . meeting in 1955, map out an evil plan to mass-produce high-yield, low-cost dwarf wheat, engineer the release of government-sanctioned advice to eat "healthy whole grains," lead the charge of corporate Big Food to sell hundreds of billions of dollars worth of processed wheat food products—all leading to obesity and the "need" for billions of dollars of drug treatments for diabetes, heart disease, and all the other health consequences of obesity? . . . in a sense that's exactly what happened.⁷³

Several Nasty Compounds

All grains / seeds contain storage proteins—a combination of amino acids, minerals, and other substances that exist to help the plant when it's first growing. Especially problematic storage proteins, *prolamins*, are in wheat, rye, and relatives of wheat. *Gluten*, the most well known protein complex, contains several different prolamins (one called *gliadin*), all of which impact very negatively on our health. Gluten protein structures repeat, which creates strong dough. And gluten's tenacious, glue-like stickiness makes it ideal for bread and other fun baked products. But this long stretchy adhesive quality contributes to, and causes, unlimited health problems—ranging from gastrointestinal ailments to degenerative diseases to autoimmune disorders. Following are some of these health conditions and why they occur.

Celiac, the Most Well-Known Affliction from Wheat

The most obviously causative (and well known) health condition related to gluten is *celiac disease*, sometimes called *celiac sprue*. In popular culture, wheat intolerance is synonymous with celiac disease. "The apparent increase in celiac disease (or at least the immune markers to gluten)," writes Davis, "is not just due to better testing: The disease itself has increased in frequency, fourfold over the past fifty years, doubling in just the past twenty years. [This fact] reflects the changes that wheat itself has undergone. Not having celiac disease at age twenty-five does not mean you cannot develop it at age forty-five."⁷⁴

Celiac is a condition of the small intestine, affecting the millions of short, tiny, slender, pole-like projections called *villi*. Villi increase the surface area of the small intestine, allowing nutrients from digested food to enter the bloodstream more efficiently. However, exposure to gluten causes the villi to malfunction. First they become compressed, with somewhat less surface area available for nutrient absorption. As their deterioration continues, the villi become flat, completely destroyed by lesions. Usually the intestinal damage occurs in the duodenum (the first third of the small intestine located next to the stomach); but in advanced cases, the jejunum (the next section of the small intestine) is also damaged.

If the villi are impaired, undigested food remains in the small intestine and ferments. This encourages a overgrowth of *Candida albicans*, which is a fungus. Normally, *Candida* levels are low due to beneficial intestinal flora that eat the *Candida*. But in a gut increasingly toxified by harmful bacteria that cause unhealthy fermentation, the levels of beneficial bacteria dwindle and *Candida* proliferates. *Candida* infections cause almost unlimited problems, ranging from brain fog and depression to severe gastrointestinal disorders and weight gain. Note that gliadin contains amino acid sequences that resemble those in *Candida*, and both gluten and *Candida* stick to the gut in a similar manner.

Even if damage to the villi is only moderate, there are major repercussions to the gut. The body responds to the presence of gliadin by releasing a protein called *zonulin*. A 2008 article on gut permeability in the *Scandinavian Journal of Gastroenterology* discusses how "zonulin signaling" activated by gliadin intake leads "to increased intestinal permeability to macromolecules."⁷⁵ Zonulin is like a doorman: it not only opens the normally tight junctions between cells, it *keeps* them open. This allows excessively large particles from grains and other foods to slip through the holes in the gut, circulate throughout the bloodstream, and enter tissues where, as irritants, they cause further damage. This punctured gut, called *leaky gut syndrome*, is an aberration because the digestive tract is designed to absorb nutrients *through the cells* of the intestinal wall, not through *gaps between the cells*.

One might expect zonulin levels to increase during the acute phase of celiac. But so-called normal people who don't have celiac disease also produce zonulin; the junctures between their intestinal cells simply close more quickly. So even if their villi don't flatten or develop lesions, gluten still damages the intestinal wall by creating holes. Irritation of the gut that occurs independently of villi destruction can cause bloating, gas, chronic diarrhea, and constipation. Extremely high levels of irritation lead to inflammation and potential infection, to which doctors give names such as "acid reflux," "Irritable Bowel Syndrome (IBS)," "colitis," and "Crohn's disease." People with celiac have a 30% greater chance of developing cancers, especially of the gastrointestinal tract.

Despite the obvious symptoms of celiac disease, it can still be difficult to diagnose and treat it because people don't always suffer from the overt intestinal issues that have become synonymous with "celiac." Celiac doesn't always affect the intestines, or affect *only* the intestines. It can also cause neurological impairment, including loss of balance and even dementia. Davis suggests that celiac sufferers who don't have intestinal symptoms should receive the diagnosis of "immune-mediated gluten intolerance" because all symptoms share the same genetic markers. Because immune-mediated gluten intolerance can consist of much more than intestinal difficulties, celiac disease is actually a subset of a larger problem.

One of the reasons 1,800,000 Americans don't know that they have celiac disease is that it is "The Great Imitator" . . . expressing itself in so many varied ways. While 50 percent will experience the classic cramping, diarrhea, and weight loss over time, the other half show anemia, migraine headaches, arthritis, neurological symptoms, infertility, short stature (in children), depression, chronic fatigue, [weight gain] or a variety of other symptoms and disorders that, at first glance, seem to have nothing to do with celiac disease. In others, it may cause no symptoms whatsoever but shows up later in life as neurological impairment, incontinence, dementia, or gastrointestinal cancer. . . . So, even if you have happy intestinal health . . . you can't be sure that some other body system is not being affected in a celiac-like way.⁷⁶

It takes an average of eleven years from the onset of symptoms to a diagnosis of celiac (during which time one can become highly malnourished, causing a host of other problems). In his decades of experience, Dr. Davis has observed that the vast majority of his clients who lack the genetic markers for celiac disease nevertheless become completely well as long as they avoid eating wheat.

Non-Celiac Gluten Sensitivity due to Eating Wheat, Rye, Barley, Spelt, Kamut and Triticale

Immune Response Malfunction. Gliadin can stimulate an *autoimmune condition*, which is characterized by the body's attack on its own tissues. In order to understand why this occurs, we need to briefly look at how the body deals with pathogens.

Antigens are molecules—usually comprised of complex proteins from pathogenic waste or biological tissues—that stimulate antibody production. *Antibodies* are proteins in blood and other fluids that act as the body's defense team. They're produced by different types of white blood (immune) cells in response to foreign substances such as bacteria, fungi and viruses, in order to neutralize them. In a healthy person, the presence of antigens stimulates the production of antibodies. Antibodies, which fit antigens like a key fits a lock, identify the antigens and tell the rest of the body what to do with them. Immune cells remember previous encounters and "teach" other immune cells to recognize the same types of bacteria, viruses or fungi in case of future invasions. So, during an immune response, the body recognizes what is not-body. The immune cells targets, attack, remove, and remember the invader. This is a great strategy for infections.

The problem is, sometimes the body isolates an antigen from a food and *treats the food as the invader*. The immune cells, unable to distinguish between (for example) gliadin and another foreign protein that belongs to a bacterium or virus, develops antibodies against the gliadin. Why would the body respond to gluten proteins as though they're pathogens? *Pathogens have an adhesive quality and can cling to cell membranes. Gliadin is similarly sticky, and attaches to the villi in the gut.* This causes the immune cells to attack the person's own gliadin-ridden body tissues. In *Dangerous Grains*, physician James Braly and Ron Hoggans write:

Whenever an individual's immune system is mounting an abnormal reaction to gluten, with or without symptoms, there is gluten sensitivity. . . . Non-celiac gluten sensitivity, or immune reactions to gluten, may affect . . . a large population that is chronically ill, unresponsive to conventional therapies, and often desperately jumping from one doctor to another without relief. To further confound the issue . . . [they] suffer a greater risk of infectious disease.⁷⁷

Although wheat is the most problematic grain from the standpoint of gluten, its botanical relatives—rye, barley, spelt, kamut and triticale—are challenging too. Also, a faulty immune response can occur to more than one protein in a grain. This is a key point that I'll be discussing shortly.

Statistics compiled by Braley and Hoggan show that autoimmune conditions occur in as high as 42% of the gluten-sensitive. The majority of sufferers develop antibodies to their own thyroid gland and pancreas. Conversely, about 65% of people with autoimmune conditions who get tested for gluten sensitivity, test positive. Common to all the research is an elevation of gliadin antibodies (indicating some form of autoimmune condition), but *without obvious intestinal damage or the presence of celiac disease*. Clearly, gluten is one of the most important factors in triggering or directly causing an autoimmune condition.

Inflammation and Addictions in the Brain. Gliadin grains, particularly wheat, negatively affect brain function. Normally, the brain is protected by the *blood-brain barrier*, tightly clustered cells that selectively allow beneficial substances in but keep harmful substances out. Sometimes this barrier doesn't function properly. Zonulin, the protein produced by the body in response to gliadin, separates the cells of the blood-brain barrier just as it separates the cells of the mucosal intestinal lining. What happens, then, if foreign particles penetrate the blood-brain barrier?

Wheat and other high-gluten grains create *free radicals*—wild, unbound electrons—that penetrate the brain, damage tissue, and cause inflammation. Glutinous grains also contain morphine-like compounds called *exorphins*, or "exogenous morphines." (This is in contrast to *endorphins*, natural morphines produced *endogenously*, or by the body itself.) These exorphins, also called *opioids*, exert a narcotic-like effect by binding to the brain's naturally-occurring opiate receptors. Any condition of the brain and nervous system can be worsened or created: difficulties in balance, muscle coordination, sensation and cognition; fluctuating emotions; even memory loss. Gluten contains at least five different exorphins. Not surprisingly, MRI scans have revealed abnormalities in the white matter of the brain due to these exorphin compounds. When wheat is removed from the diet of people with dementia, their memory and ability to learn improve. So do their MRIs.

Exorphins—whether from a drug or from wheat—are addictive. Thus, what began as a *craving* for bread, cake, donuts, pastries, pies or breakfast cereal quickly escalates into an *addiction* to grains, especially wheat. After eating pizza, pastry or a sandwich, one may feel doopey, brain-fogged or drunk (as though from alcohol).

Despite all this damning evidence, people who are addicted to wheat and other grains, even when advised of the dangers of this drug-disguised-as-a-food, are reluctant to quit. They might deny experiencing any ill effects. Or, if they confess to feeling ill effects and even admit that they're hooked, they often become outright hostile at the suggestion of quitting.

Insulin Resistance, High Blood Sugar, and Obesity. We have learned that wheat is heavily addictive because it contains several morphine-like compounds. But what also contributes to wheat's addictiveness is its singular ability to raise blood sugar. In fact, just two slices of refined wheat or whole wheat toast raise blood glucose levels more than one candy bar or a serving of soda can. Let's look at the nature of carbohydrates as a starting point for this domino effect of health problems.

The public is repeatedly assured that complex (as opposed to refined) carbohydrates are good for us. However, what we aren't told is that there are several different types of complex carbohydrates. Not all of them are nourishing and some are outright harmful. *Amylopectins*, comprised of branching glucose units, are one form of complex carbohydrates. Different types, labeled "A," "B" and "C," have different levels of digestibility. Some amylopectins are indigestible fiber and are simply excreted. Others are easily digested in the stomach and rapidly enter the bloodstream. The most digestible form, amylopectin-A, is found in wheat. It's so readily absorbed that it enters the bloodstream almost immediately, propelling blood glucose to dangerously high levels.

Normally, in response to an increase in blood sugar, the pancreas secretes insulin, a hormone designed to drive the glucose into tissue cells where it's used as fuel. However, if very high-carbohydrate or sugary foods are eaten, blood glucose levels rise too rapidly. The pancreas overreacts and produces too much insulin, which excessively lowers blood sugar levels. In response to low blood sugar, one becomes hungry—and what's usually eaten is quickly metabolized carbohydrates or sweets. This causes the pancreas to produce more surplus insulin. Blood sugar levels drop too low, and the vicious cycle repeats all over again. If this happens frequently enough, after a while the pancreas may weaken, unable to produce enough or any insulin. Often, the tissue receptor sites to insulin can no longer receive insulin's signals and the person becomes *insulin resistant*.

Glucose that can't enter the tissues remains in the bloodstream. This is high blood sugar or diabetes. Higher than normal blood sugar levels, even if not high enough to provoke full-blown diabetes, eventually create *visceral fat*, or adipose tissue surrounding the organs in the abdominal region—what Davis calls "wheat belly."

Visceral fat filling and encircling the abdomen of the wheat belly sort is a unique, twenty-four-hour-a-day, seven-day-a-week metabolic factory. And what it produces is inflammatory signals and abnormal cytokines . . . [leading to pain, and abnormal levels of] cell-to-cell hormone signal molecules, such as leptin, resistin, and tumor necrosis factor. The more visceral fat

present, the greater the quantities of abnormal signals released into the bloodstream. . . . As visceral fat increases, its capacity to produce protective adiponectin [a hormone from fat cells that regulates fat and glucose metabolism] diminishes . . . Wheat belly fat . . . is not just a passive repository for excess pizza calories; it is, in effect, an endocrine gland much like your thyroid gland or pancreas, albeit a very large and active endocrine gland. . . . A wheat belly is not just unsightly, it's also dreadfully unhealthy.⁷⁸

Excess insulin causes unlimited damage. It eventually triggers fatty acid synthesis in the liver, which pours triglycerides into the bloodstream. The triglycerides turn into VLDL (very low-density lipoprotein) particles—otherwise known as "bad" cholesterol, the kind that deposits plaque on artery walls and restricts the passage of blood. High blood sugar causes the destruction of bone and cartilage tissue due to its inflammatory properties. High blood sugar is also related to acne. Insulin stimulates the release of a hormone (insulin-like growth factor-L) within the skin, which overstimulates the production of oil and causes pimples. And, as many diabetes sufferers already know, high blood sugar can lead to kidney failure and limb amputation.

People who develop fat around their midline are susceptible to blood sugar imbalances, even if they don't (yet) have symptoms or a diagnosis of diabetes. Avoiding wheat is about more than simply eliminating gluten.

Advanced Glycation End Products (AGEs). The acronym AGEs is appropriate. *Advanced glycation end products* are proteins whose structures and functions are radically and undesirably altered when they react with sugars. As long as glucose isn't used by the body for fuel, but instead circulates in the bloodstream—as with abnormally high blood glucose levels or a full-blown case of diabetes—more AGEs are produced and more accumulate. AGEs make arteries stiff (atherosclerosis), cloud the lenses of the eyes (cataracts), destroy nerve tissue (dementia and loss of sensation), cause heart disease and kidney damage, and erodes the joint and cartilage. People assume these conditions are "normal" effects of aging. They are not. They are, however, the expected, gruesome results of AGEs.

Summary. Here is just a brief overview of conditions not only exacerbated by wheat and some other grains, but in many cases, directly caused by them.

- ◆ Allergies of all kinds.
- ◆ Arthritis, rheumatoid arthritis, fibromyalgia, and other types of chronic joint and muscle pain.
- ◆ Bone defects: tooth enamel erosion, impaired bone growth (and thus short stature), and osteoporosis.

- ◆ Cancers of all kinds, including of the bladder, brain, prostate and testicles, as well as Lupus erythematosus, lymphoma, and squamous cell.
- ◆ Cardiovascular ailments, including cardiomyopathy (weakening of the heart muscle structure) and recurrent pericarditis (inflammation of the pericardium, which is the lining that surrounds the heart).
- ◆ Digestive tract damage (including leaky gut) and vitamin and mineral deficiencies due to malabsorption or incomplete nutrient conversion.
- ◆ Eyestrain distortions, such as “telescoping” vision.
- ◆ Hormone disruption, including Addison’s disease (insufficient adrenal hormones), diabetes, growth hormone deficiency, and thyroid disorders.
- ◆ Liver diseases.
- ◆ Neurological problems: anxiety, aggression, Asperger’s syndrome, autism, ADD, dementia, depression, dyslexia, epilepsy, hyperactivity, learning disorders, migraines, mood swings, Multiple Sclerosis, seizures, and schizophrenia.
- ◆ Reproductive problems including infertility, abnormal sperm motility, miscarriage, stillbirths, delayed puberty, and menstrual disorders.
- ◆ Respiratory issues such as asthma and emphysema.
- ◆ Skin conditions, including dermatitis, eczema, psoriasis and warts.
- ◆ Urinary tract problems, including kidney disease and frequent urination (sometimes at night, suggesting a possible history of bedwetting).

It makes sense that infections are on this list. Glutinous exorphins can attach themselves to any part of the body and prevent immune cells from scavenging dead bodily cells and incapacitating pathogens. In addition, the high carb content of wheat causes chronically high blood sugar levels, creating a breeding ground for pathogens.

Gluten-Like Problems from Lectins

Lectins—known as *agglutinins* (from the Latin *agglutino*, meaning “to glue to”)—are sugar-binding plant proteins similar to gluten. The most damaging lectins are in legumes (soy, beans, peanuts and some nuts), dairy (especially from grain fed cows), nightshades (eggplant, peppers, tomatoes and potatoes), and grains—especially wheat, rye, barley, corn, millet, and oats. In ways very similar to gluten, lectins can damage the gut, bloodstream, nervous system, organs, and glands in sensitive people. The villi become inflamed, harmful bacteria proliferate, and the intestines leak. Red blood cells clump. The brain develops cognition and motor disorders. Lectins bind to glucosamine (a component of cartilage) and destroy joint

tissue. They diminish the body’s sensitivity to *leptin*—the hormone that signals when we’ve had enough to eat—thus slowing metabolism and producing abnormal fat deposits. Lectins bind to insulin receptors. And they cause autoimmune disorders, inflammation, and AGEs.

Lectins cannot be inactivated completely by heating, soaking, sprouting or fermenting, although these methods do help a bit. (Wheat and its relatives are unaffected, however.) Some doctors have found that by avoiding lectins alone, health and normal weight can be restored.

Wheat Intolerance and Dairy Intolerance

Research shows that 50% of gluten-sensitive individuals are unable to handle dairy products. (However, the research doesn’t distinguish between commercial adulterated dairy and raw, grass fed, and / or A2 dairy.) If a product contains wheat, it will very likely also contain, or at least be eaten with, commercial milk, cream or butter. *The same receptor sites in the body accommodate the proteins from both grain and dairy.*

Adding both dairy and sugar to a wheat item makes the product especially lethal. It’s no accident that the most ubiquitous junk food in the United States is pizza—made with wheat and adulterated dairy (as well as nightshade vegetables). And it’s no accident that favorite desserts (such as cheesecake or cannoli) are made from wheat, dairy, and sugar.

Wheat Intolerance Through Inhalation and Touch

Some people are sensitive to more than the *ingestion* of wheat: one man reported extreme reactions from *inhaling* wheat flour dust in the bakery where he worked. Some people react if they *touch* materials containing gluten. Several building material companies, in the admirable attempt to use alternatives to formaldehyde-ridden particle board, are manufacturing *wheatboard* made of recycled wheat chaff. Although free of synthetic chemicals (as well as being stronger and more moisture-resistant), the board can still be toxic to gluten-sensitive individuals.

Detecting Wheat Intolerance or Allergy

Conventionally trained medical doctors will tell you that there’s a difference between a full-blown immune response to wheat and “merely” an intolerance to it. A few expensive blood tests can detect the presence of immune-related antibodies in the blood that are produced in response to gluten. However—and this is where conventional medical training doesn’t help most gluten-sensitive people—someone can be negatively impacted by gluten without having an antibody response. I have already discussed many common celiac symptoms, including digestive disturbances (bloating and

constipation) and sudden, extreme weight fluctuations. There can be myriad other symptoms too, such as sleep disturbances, alterations of mood, and chronic fatigue.

It can be hard to grasp that grains are problematic because often, symptoms aren't obvious until the foods have been avoided for a month or even longer. Some people choose to undergo tests for the precise antibodies produced in response to gluten allergens or antigens. They may want confirmation of what they already sense—or hope they're wrong about—so they can continue to eat what they want. However, the best way for the body to heal is total avoidance.

Even nursing, wheat-eating mothers may want to rethink their diet. A sensitive nursing child, who receives the offending proteins through the milk, will react as though s/he has eaten the actual wheat. Symptoms will manifest as allergies, colic and other digestive disturbances, crankiness, and sleeplessness. Wheat intolerance can appear in anyone, at any age.

Healing from Wheat-Related Illnesses

It takes a minimum of two years to repair a gut damaged by wheat. After the gut heals, the best way to maintain health is to continue to avoid the grain, and to eat more assimilable, nutrient-dense foods. People who are ill or over 35 or 40 years old are advised by holistic health practitioners to supplement their diet with digestive enzymes—amylase, catalase, protease, lipase and hydrochloric acid—as well as probiotics. Raw fermented vegetables such as sauerkraut provide probiotics. Aloe vera juice, slippery elm bark powder, L-glutamine (an amino acid), and edible clay (such as pascalite or calcium bentonite) between meals can help heal the digestive tract, as can 1 teaspoon of activated charcoal with meals.

If you have autoimmune damage, an even bigger repair job awaits you. You may suffer from heavy metal or fluoride poisoning. Probably everyone will require liver support. See a holistic medical professional.

The good news is, often even severe health problems can completely heal if you avoid wheat and perhaps other grains too. Once you feel better, you'll see that dietary restrictions are a small price to pay for such a huge improvement in your health. *All* intestinal villi flatten when exposed to gluten; so even presumably non-reactive people who don't think they have issues with gluten, require 72 hours to recover after eating it. Therefore, why eat it at all?

Substitutes for Glutinous Grains and Flours

Rice, wild rice, buckwheat, quinoa, amaranth, teff, and many tubers (root vegetables) are healthy and satisfying substitutes for glutinous grains. Tubers can include potatoes, carrots, cassava root, or celery root (which is both delicious and a healthy alternative to other tubers).

Instead of flour, the best sticky alternatives are arrowroot, kudzu, tapioca, chia seeds, potato starch, and teff. Meal or "flours" made from coconut, sorghum, rice, corn, and ground nuts and seeds (pumpkin, almonds, hazelnuts, cashews, chestnuts, peanuts, pecans, walnuts, chickpeas, amaranth, buckwheat, and pea) are less sticky. Almonds, chia seeds, coconut, kudzu, pea flour, pumpkin meal, and teff flours contain beneficial resistant starch, which isn't metabolized in the body as caloric carbohydrate, but feeds the gut flora. For binding, in addition to using some sticky "flours" in your recipes, you can always use beaten eggs or ground flax seeds.

Be aware that there is an issue with the corn, potato, rice, and tapioca starches that we substitute for wheat flour. Although they don't trigger the immune or neurological reactions that wheat triggers, they still cause extreme insulin spikes and abnormal blood sugar levels. In fact, the reactions that these substitutes cause are even more extreme than those caused by wheat! Thus, "gluten-free" doesn't necessarily mean "low-carb." In fact, it's usually very high-carb. People with longstanding problems related to wheat ingestion—especially those who are overweight—would be wise to avoid the most common wheat "substitutes" and wean themselves off high-carbohydrate foods entirely.

Avoiding Gluten Issues By Using Heirloom Wheat

Artisinal sourdough bread bakers insist that people can digest grain if the bread is fermented. They make it the old-fashioned way: the dough sits for longer than 24 hours, during which some of the noxious elements in the grain are predigested. However, even fermentation cannot completely break down all of the indigestible components. Sometimes, the improved health of some artisinal bread customers may also be due to the use of the original, simpler strains of wheat (either einkorn or emmer wheat). Nevertheless, these simple "back to basics" procedures may not be enough.

In the End . . .

Whether modern wheat is organic, stone ground, sprouted or sourdough, it's still wheat, with its gliadin and other irritating proteins, and amylopectin-A. Wheat is addictive, inflammatory, and leads to extreme glucose levels that impair health almost beyond imagination. Research by pathologist Joseph Kraft shows that 60% to 70% of the population is sensitive to carbohydrates. So is it really worth eating wheat—of any kind?

Considering the severity and scope of health problems due to wheat, at this point it seems wise to avoid it entirely—regardless of its origin or how it's prepared. People who are ill shouldn't eat it. People who aren't ill and don't want to be, should probably think twice about eating it. This may be good advice for other grains too.

- ◆ *Rice*. Includes the misleadingly named “glutinous” rice (which is sticky, hence the name). Until recently, rice has been eaten polished. In Asia, where rice is a staple, carbohydrate intolerance wasn’t a problem until modern wheat and processed dairy were added to the diet. Basmati, a fragrant rice that heals the gut, is used in Ayurvedic medicine for digestive disorders. Wild rice is the seed of an unrelated nutty-tasting grass. In prepackaged meals, gluten may be added to rice “to improve consistency,” but this is rarely on the label.
- ◆ *Teff*. The size of a poppy seed and highly nutritious, teff is used to make *injera*, an Ethiopian flatbread.

The following seeds cook and act like grains. Except perhaps for two strains of quinoa, none contain prolamins.

- ◆ *Buckwheat / Buckwheat Groats / Kasha*. This confusingly named food is not in the wheat family at all, but is the seed of an herb related to rhubarb.
- ◆ *Millet*. Commonly fed to birds, this grass seed contains goitrogenous compounds that impair thyroid function and inhibit iodine absorption. The effects *increase* when cooked, so millet should not be eaten often.
- ◆ *Amaranth*. This nutritious seed, botanically related to spinach and quinoa, contains the amino acid lysine.
- ◆ *Quinoa*. Nutritious and botanically related to spinach and amaranth, quinoa contains the amino acid lysine. Two out of 15 varieties of quinoa contain proteins distantly related to gluten, which cause people with celiac disease to react as though they had eaten wheat. However, most people don’t have a problem with quinoa.

Those with longstanding or serious health issues might consider abstaining from grains until health is restored. Everyone could benefit by avoiding most prolamin grains.

Natural, Refined, and Artificial Sweeteners

Humans have always loved sweet foods. The expression “sweet tooth” dates from the late 1300s. Originally, the phrase referred to a fondness for any morsel that was considered a delicacy; but over time, it came to mean *sweet* delicacies. Today, the expression pertains to anyone who has an uncontrollable craving for sweets. Of all the tastes—sweet, sour, salty, bitter and astringent—the sweet taste is the favorite of most people all over the world, particularly children.

Our sense of smell usually lets us know whether we should eat a food. If the animal or plant smells rancid or putrid, it’s very likely rotten or poisonous; and if it’s sweet, it should be okay to eat. However, what tastes

intoxicatingly sweet isn’t always good for us, and we pay dearly with our health. So-called natural sweeteners straddle the line between real and manipulated food because although most are derived from natural plants, their sweetness is concentrated through drying, heating, or evaporation. These changes affect body chemistry in ways that aren’t beneficial.

There are many types of sugar. Among the ones ending in “ose” are dextrose, fructose, galactose, glucose, lactose, maltose, and sucrose. (Glucose is the primary fuel utilized by the brain and muscles.) Among the sugars ending in “tol” are those classified as sugar alcohols or polyols: erythritol, lactitol, maltitol, mannitol, sorbitol, and xylitol. Different foods contain different amounts and combinations of sugars. For example, refined white sugar from cane is almost 100% sucrose (which is broken down by the body into glucose and fructose), the sugar in apples is almost 100% fructose, and different honeys usually contain varied proportions of fructose and glucose.

In this discussion on sweeteners, I will explore in depth the effects on the body of all types of sugars. Then I’ll discuss specific sweeteners, from the least processed to the outright artificial. “Least processed” refers to substances that are gathered from nature, and then dried or heated to concentrate their sweetness. “Outright artificial” refers to substances that are synthesized in a lab. They might be extracted from natural materials, but they undergo so many chemical processes that they’re ultimately transformed into entirely different substances.

The Bitter Truth About Sugars

Unless specified, “sugar” includes *all* sweeteners except for the obviously artificial sugar substitutes. Sugar:

- ◆ Promotes tooth decay (except for xylitol).
- ◆ Upsets the body’s vitamin and mineral balances.
- ◆ Feeds harmful microbes.
- ◆ Suppresses immune response.
- ◆ Permanently alters protein structure and function.
- ◆ Causes a loss of tissue elasticity and function.
- ◆ Changes collagen structure.
- ◆ Causes tendon brittleness.
- ◆ Impairs DNA structure and function.
- ◆ Causes hormonal imbalances.
- ◆ Hinders normal cell metabolism.
- ◆ Interferes with oxygen availability to the body.
- ◆ Destroys enzymes.

It's not surprising, then, that sugar exacerbates or directly causes virtually unlimited problems in all aspects of biochemical and physiological functioning. Aside from general fatigue, low energy and high stress, more specific problems include infections and chronic degenerative conditions, including:

- ◆ Autoimmune conditions (including arthritis, asthma, and Multiple Sclerosis).
- ◆ Blood sugar problems (diabetes and hypoglycemia).
- ◆ Cancers, many types (brain, breast, colon, ovary, prostate, stomach, etc.)
- ◆ Cardiovascular problems (varicose veins, heart problems, and atherosclerosis).
- ◆ Eye issues (including cataracts and nearsightedness).
- ◆ Gastrointestinal problems (including food allergies, chronic indigestion, ulcerative colitis, Crohn's disease, and *Candida albicans* overgrowth).
- ◆ Nervous system disorders (anxiety, depression, mood swings, hyperactivity, difficulty concentrating, and increased risk of polio and epileptic seizures).
- ◆ Respiratory tract problems (including emphysema).
- ◆ Skeletal structure debilitation (such as bone loss, due to decreased ability to absorb calcium and magnesium).

Tooth decay is probably the most well known, and least contested, consequence of eating sugar. It is popular knowledge that bacteria in the mouth (primarily *Streptococcus mutans*) feed on sugars, and the acids secreted by bacteria erode the dental enamel. But what about the other health problems?

Nutrient Depletion. *Sweeteners, regardless of their source, deplete our nutrient reserves.* Some sweeteners contain absolutely no nutrients (such as white “table sugar” sucrose); others, such as molasses and honey, contain some. But even the most nutrient-rich sweetener doesn't contain enough vitamins and minerals to process the sugar. *The body requires huge amounts of vitamins and minerals to process simple sugars.* When we eat sugar, the body is forced to steal from its own stores of minerals and vitamins (including many of the B-complex vitamins) to metabolize it. Often those stores are already scarce or non-existent, particularly in those who are ill. This is why sugar is referred to as an *anti-nutrient*. Nutritionally starved cells malfunction and die sooner, have poor resistance against pathogens, and age and die more quickly due to oxidative damage—thus promoting an increase in all kinds of disease.

Normally, Vitamin C helps prevent oxidative damage to the cells. However, *Vitamin C is particularly susceptible to being displaced when sugar is eaten because it shares, with sugar, the same metabolic pathway into the cell.* As Vitamin C is made directly from glucose, it has a similar chemical structure to sugar. This may explain why *only* Vitamin C, or *only* sugar, can enter a cell at a given time. If sugar and Vitamin C are competing for the one available transport system, even a slightly higher amount of sugar compared to Vitamin C will prevent the vitamin from reaching the tissues. Vitamin C has another important feature too: it helps strengthen the cell membrane, allowing nutrients to enter and wastes to leave. When Vitamin C is scarce, metabolic wastes quickly accrue, providing a breeding ground for bacteria, fungi and viruses that enter the cell effortlessly. With such easy access to the tissues, plus extra sugar to feast on, the pathogens readily proliferate, practically guaranteeing the onset of disease. Nutritionist Bill Misner elaborates.

Vitamin C is made in almost all living mammals except humans and a couple other species. . . . We've known for many years that sugar depresses the immune system. . . . It was only in the 70s that they found out that vitamin C was needed by white blood cells so that they could phagocytize [scavenge and eliminate] bacteria and viruses. . . . Linus Pauling knew that white blood cells needed a high dose of vitamin C and that is when he came up with his theory that you need high doses of vitamin C to combat the common cold. . . .

There is something called a phagocytic index which tells you how rapidly a particular macrophage or lymphocyte can gobble up a virus, bacteria, or cancer cell. . . . *If there is more glucose around there is going to be less vitamin C allowed into the cell and it doesn't take much. A blood sugar value of 120 reduces the phagocytic index 75%. [emphasis added]*⁷⁹

Another key nutrient that the body uses to metabolize sugars and starches is Vitamin B1 (thiamine). Symptoms of thiamine depletion include irritability, moodiness and inability to concentrate, because the brain and nervous system depend heavily on thiamine in order to function.

Hormone Malfunction. Earlier in this chapter I described some of the complex interactions between various organs and glands when caffeine is ingested. A similar response occurs with concentrated sweeteners, in part due to their lack of fiber. Let's use fruit as an example. When we eat an apple, the fiber or pulp is ingested along with the sugars. Fiber acts as a buffer in the intestinal tract, preventing the sugars from being absorbed too quickly

into the bloodstream; otherwise, blood sugar levels would rapidly rise. (All sugars get transformed into glucose, the form of sugar best utilized by the body.) But with fruit *juice*, the fiber—which ordinarily slows the absorption of sugar—is missing. When the readily absorbed sugar hits the bloodstream, the pancreas over-secretes insulin in an attempt to drive the excessively high levels of glucose from the blood into the cells. This sudden outpouring of insulin then creates *too low* a level of blood glucose, which in turn further stimulates more sugar cravings. In response, the person ingests more sugar, which induces yet another outpouring of insulin. Thus the cycle of high/low blood sugar levels begins all over again.

The pancreas isn't the only gland that malfunctions from sugar distress. So do the adrenals, which secrete hormones in response to the alarm state of the pancreas. Most people are familiar with the fight-or-flight function of the adrenals. When we're frightened, angry or anxious, the adrenals secrete adrenaline and cortisol. Adrenaline keeps us alert and focused to help us deal with the danger. Cortisol increases the heart and breathing rates and tenses the muscles, to help us literally fight or flee. When the stressor is removed, adrenaline levels drop. However, because cortisol levels take a longer time to build in the body, they also take a longer time to return to normal. Therefore, after the danger has passed, the cortisol volume still rises a bit more, and remains at that level for a while. During this time, the cortisol signals us to replenish our nutrient stores by *eating*.

The adrenal distress call causes more than overeating. Cortisol also signals the body's fat (adipose) cells to release fats (called *triglycerides*, when released from the fat cells) into the bloodstream, for the purpose of providing energy to the muscles. (Meanwhile, the adrenaline had induced the pancreas to secrete yet another hormone that affects the liver in its sugar-storing capacity. However, this piece will be omitted to avoid making this discussion too complicated.) The problem is, if your muscles aren't moving—if, for example, you're lying on the couch eating chips and watching TV instead of going for a brisk walk—the triglycerides will not be used as fuel. Instead, they'll mostly migrate to the fat cells throughout the body. Some triglycerides go to the liver, but the liver has a limited capacity to store fat; so the excess is sent to the adipose cells. And there can be quite a bit of excess.

Meanwhile the triglycerides, on their way to the body's fat storage units, pass through the blood vessels, where they can easily clog the arterial walls. This is why unused sugars in the body can lead to heart attacks. A high sugar intake can cause as many as 150,000 premature deaths from heart disease alone each year in the US. Sugar also lowers the levels of beneficial high density lipoproteins

Most chronically ill people don't have the energy for strenuous exercise, and are therefore much more susceptible to obesity. If you're chronically ill, you can't afford to be obese, because it further throws off your already battered hormone balance. I like to think of carbs as rocket fuel: a little bit goes a long way. Consume just enough carbs to keep your energy up, but too much causes weight gain, blood sugar and insulin spikes, and excessive inflammation. Carbohydrates are eaten with awareness and intentionality; they aren't the first thing you grab. If you're craving carbs, eat some. Just be sure to stop after you've had enough, and of the right kind.

—adapted from Bryan Rosner,
Freedom From Lyme Disease (2014)

(known as HDL or “good” cholesterol), and raises the levels of harmful low density lipoproteins (known as LDL or “bad” cholesterol). The HDL cholesterol is used for many important bodily functions. The LDL cholesterol forms plaque on the arterial walls, related to heart attacks.

Fatty triglycerides are not the only substances that gravitate to adipose tissue. Cortisol has an affinity for fat as well, especially the adipose tissue deep within the abdominal cavity. This is why even thin people can accumulate abdominal fat, giving them an “apple” rather than a “pear” shape in the midsection. This “beer belly” fat not only indicates high adrenal stress, but it has also been linked to cancer, cardiovascular disease (including high blood pressure and stroke), diabetes, and premature death.

Pancreatic and adrenal function are intricately related. Both cortisone and LDL cholesterol levels rise by a whopping 400% in response to excess blood sugar levels. Over time, the consistent overexertion of both the pancreas and adrenals causes them to become depleted, which contributes to systemic breakdown. This can be greatly eased by better food choices and exercise. As the **Exercise** section later discusses, even a moderate 20-minute daily walk can help eliminate some body fat.

As already mentioned, in response to excess sugar in the blood, the pancreas secretes more insulin to escort glucose out of the bloodstream and into the tissues to be used as fuel. However, too much insulin in the blood can desensitize the insulin receptor sites on the cells. Or, the receptor sites may be completely full and unable to accommodate any more insulin. Or, the receptor sites may fail to recognize the message that the insulin is bringing. All of these malfunctions contribute to *insulin resistance* (which often accompanies chronically high insulin levels). Whatever the reason for the insulin resistance, glucose can no longer enter the cells, and instead accumulates in the blood. In response, the pancreas tries to reduce the blood

glucose levels by producing and releasing yet even more insulin. This is how a malfunctioning feedback loop, if not corrected, turns into full-blown diabetes.

One symptom of diabetes is thirst, which can be caused by the high ratio of sugar to blood. Another symptom of diabetes (and mild insulin resistance as well) is *hunger*. Dr. Batmanghelidj, author of *Your Body's Many Cries for Water*, pointed out that insulin draws water from the extracellular environment (the area surrounding the cells), which causes artificial hunger—and is another contributing factor to the desire to eat more. When the cell receptor sites resist insulin's effects, virtually none of the carbohydrates and sugars that are eaten are metabolized, because they can't get into the cells to be burned as fuel. Instead, as described in *The Nutrition Solution*,

triglycerides continue to be released into the bloodstream to try to make up the energy deficit. Unfortunately, this has the effect of stimulating the liver to synthesize even *more* triglycerides, so that the bloodstream becomes overloaded with them—in addition to the excess glucose and insulin. This process accounts for the excess triglycerides—a prime risk factor for cardiovascular disease—found in people with Syndrome X.⁸⁰

Syndrome X is also known as *Metabolic Syndrome* or *carbohydrate intolerance*. Over one-third of the US population is either obese or overweight, and at least that percentage also has problems managing carbohydrates and sugars. People who are carbohydrate intolerant are insulin resistant, which impacts many functions in a cascade effect. They often suffer from inflammatory conditions caused by excess sugar. Also, many people who are diabetic are insulin resistant and carbohydrate intolerant.

Insulin resistance affects *leptin*, a hormone that was discovered at a US university in 1994 by scientists doing research on mutant mice. This unusual hormone is not secreted by any gland that's part of the conventional endocrine system—but rather, by *white fat cells* in the body. Leptin reduces, or suppresses entirely, cravings for carbohydrates and sweets once it circulates in the bloodstream and latches onto leptin receptors in the tongue and brain. “Leptin is the way that your fat stores speak to your brain to let your brain know how much energy is available and, very importantly, what to do with it,”⁸¹ writes physician Ron Rosedale. Leptin controls appetite and fat storage, and tells the liver what to do with its stored glucose.

In an optimally functioning body, leptin conveys messages to reduce fat storage, increase the burning of fat, and reduce hunger (via feelings of satiation, and the sensation of being full). But if signals are not being sent or

received properly, the biochemical messages from leptin will not register. Note that it takes a very small amount of sugar to upset the body's balance. A study published in a 2017 edition of *Clinical Science* showed that men age 40–65, who considered themselves healthy, had an increased risk of developing cardiovascular disease after adding high levels of sugar to their diets for 12 weeks.⁸²

There are two ways that the leptin regulation system can malfunction and make people overeat. One, there is not enough leptin in the system. Two, high levels of leptin are present—but the receptors aren't working correctly, probably because they've lost their sensitivity to leptin. If the body is exposed to too much leptin over a period of time, it becomes impervious to the signals. It stops burning fat and continues to store fat, thus causing hunger. People (and animals) can become leptin resistant the same way that they become insulin resistant: through the overconsumption of sugars and carbohydrates. This is why leptin is sometimes called the *obesity hormone*. Like insulin, leptin escalates the storage of fat, particularly in the belly. (In the proper moderate amounts, leptin helps promote the growth of bones, cartilage, skin, and gastrointestinal tract tissue.)

Very simple sugars, Rosedale writes, are deleterious “to ideal health and optimal athletic performance when prolonged consumption in amounts above 15% of the carbohydrate calories are ingested.”⁸³ Highly concentrated grains such as flours affect the body in a similar way.

Standard advice is to eat slowly and calmly, and to make sure that breakfast contains concentrated protein. Different sources suggest various strategies to balance leptin, blood sugar, and insulin levels. For example, the authors of *Mastering Leptin* advocate at least 11 to 12 hours between dinner and breakfast the next day and eating three meals a day with no snacks. Alan Christianson, author of *The Adrenal Reset Diet*, suggests snacks for certain individuals, as well increasingly more carbohydrates during the day and especially at night, depending on whether one's adrenal stress (or malfunction) manifests in too little cortisol, too much cortisol, or a faulty timing of cortisol production. Whether an approach will work depends on one's health status and metabolism.

In general, most people eat far too many carbs. This is why there's a chapter in *Mastering Leptin* called “Eat Like a Pyramid, Look Like a Pyramid.” (See Insert, “The Food Pyramid and Carbohydrate Intolerance.”) The growing popularity of the so-called Paleo diet illustrates many people's need to eliminate concentrated carbohydrates from their meals. The Paleo diet allows animal proteins, non-starchy veggies, small amounts of coconut and olive oils, and perhaps berries—with absolutely no grains or even, in the strictest circles, dairy. Most people lose

The Food Pyramid and Carbohydrate Intolerance

The food pyramid—which organizes animal and plant foods into groups, containing grains, beans, fruit, vegetables, milk, meat, dairy and oils—is shown to every schoolchild in America. Developed in the 1960s by the US Department of Agriculture (USDA), it was intended to tell Americans with a single picture what to eat, and how much to eat daily, from each food group. At the base are foods to be eaten in the largest volume, the amounts gradually decreasing as the pyramid narrows to the capstone at the top, at which point foods should be eaten sparingly. The food group at the very bottom is grains, bread and pasta. Oils, fats and sugars occupy the capstone position.

Here is a brief summary of the basic nutrients:

- ◆ **Proteins** (comprised of smaller units called amino acids) support metabolic functions while repairing and building tissue. On rare occasions, they will provide energy when there are not enough carbohydrates or fats available; but the body must perform considerable conversion before the proteins are available for energy needs. Concentrated sources of proteins include red meats, poultry, fish (including shellfish) and eggs.
- ◆ **Fats** support many different types of metabolic functions and provide slow steady energy. They comprise 80% of the nerve tissue and brain. Fats are abundant in fatty meats, poultry and fish, nuts and seeds, full-fat dairy products, fatty vegetables such as olives and avocados, and of course vegetable oils. Moderate amounts of fat help promote a feeling of satiation.
- ◆ **Carbohydrates** (comprised of simple sugars and more complex starches) break down into simple sugars in the body and provide quick, accessible energy. High-carb foods include refined and whole grains and concentrated sweeteners. High- to moderate-carb foods include legumes and beans, some nuts and seeds, dairy products, and starchy roots (potatoes, yams, carrots, parsnips, winter squash, pumpkin). Low-carb vegetables include greens of all kinds, stalks (like celery), and flowers (broccoli, cauliflower). All low-carb vegetables are considered fine for people on a low-carb diet.
- ◆ **Sugars** are processed immediately by the body and provide instant energy. High-sugar foods include fruits, honey and other natural sweeteners, and to a certain extent grains.
- ◆ **Fiber** (soluble and insoluble) passes through the gut undigested. Soluble fiber forms a gel when mixed with liquid, whereas insoluble fiber does not. Fruits, vegetables, *whole* grains, seeds, nuts and beans contain fiber. Animal protein contains almost no fiber.

The USDA recommends six to eleven servings per day of grains, bread and pasta. *Life Without Bread* states:

One of the greatest myths . . . is that you cannot become fat from eating carbohydrates. Yet the production of triglycerides, the form of fat that gets stored in adipose tissue, is a result of excess carbohydrate consumption. If carbohydrates are not used immediately for energy, they are converted by biochemical reactions into triglycerides, or into glycogen (sugar stored in the liver). It doesn't take much to fill up the body's glycogen storage bank.⁸⁴

People aren't told that grains were awarded the position of greatest volume when the pyramid was being formulated because of input from the subsidized grain industry. US dietary habits conform to the USDA pyramid recommendations. Is it any wonder, then, that over half the American population is overweight, and a sizeable percentage morbidly obese? High-carb grain meals are cheap, compared to animal protein and vegetables. But most people cannot handle huge amounts of carbohydrates, whether whole or refined. If excess sugars are ingested, metabolic disorders result.

There are other problems with the food pyramid besides the prominence awarded grains. The USDA recommends two to three servings of protein, from either animal sources or beans/nuts/legumes. Meat, poultry and fish are placed in the same category as beans and nuts, but those proteins are quite different. Meat contains valuable phosphorus, Vitamin B12 and other nutrients; nuts and beans do not. Meats contain virtually no carbohydrates; nuts and beans are loaded with carbs. And animal protein (and fats) digest much more slowly than any carbohydrate. People who absorb sugars quickly into the bloodstream need the slow, steady energy that animal protein provides—they cannot handle the biochemical crashes caused by carbs.

At the pyramid top, fats reside with added sugars as though they belong to the same food group. And no distinction is made between *kinds* of fats. There's a huge difference between fats from clean fish or grass fed meat, and fats from hydrogenated, processed vegetable oils. Finally, at least 30% of our diet should consist of healthy fats, with more for older people. (The North American Inuit diet is often 90% fat.)

Americans are so scared of fat and cholesterol, they are limiting their intake of red meat and eggs instead of insulin-producing carbohydrates. Of all the populations in technologically advanced countries, those in the United States are the most malnourished. In 2006, 8% of the entire US population reported to the National Center for Chronic Disease Prevention and Health Promotion that a doctor told them they had diabetes. And these statistics apply *solely* to those who *knew* about their condition!

The standard food pyramid is a dangerous model. Newer models, which have been issued since the original, follow a similar theme, and are still not correct.

weight eating this way. Only after their body has become balanced might they require more carbs (and be able to handle them).

Impeded Oxygen Transport. Large amounts of glucose cause the deposit of excess fat not only around organs and in the subcutaneous (beneath the skin) fat cells, but also in the blood vessels. This reduces the amount of oxygen available to the red blood cells. When red blood cells are deprived of oxygen, they become sluggish, lose their electrical charge, and start sticking together. “Cellular hypoxia [the lack of oxygen],” Misner points out, “is the constant companion of numerous degenerative diseases.”⁸⁵

Impaired Brain Chemicals. As already mentioned, insulin blocks the action of leptin in the brain. However, sugar also affects the brain in another way: it causes addiction, similar to an alcohol, tobacco, cocaine, or other drug addiction. Parents are well aware of sugar’s allure when confronted by the child who demands more candy and has a temper tantrum if that sugar fix isn’t instantly satisfied. And drug treatment counselors recognize the similarities between sugar and drug addictions, as sugar and alcohol latch onto the same beta endorphin brain receptors. One can stimulate a craving for the other.

There’s a similarity between cocaine, concentrated sugars, and refined carbs. All cause the release of the

neurotransmitter *dopamine*—nicknamed the “feel good molecule”—as evidenced by research such as “Daily bingeing on sugar repeatedly releases dopamine in the accumbens shell [a part of the brain].”⁸⁶ We become addicted to activities or foods that cause dopamine release. The problem is, in the presence of excess insulin our dopamine receptors become fewer and less responsive, causing us to eat more in an effort to induce more dopamine production. Hence, a vicious cycle ensues.

Glycemic Index Propaganda. If sugar damages our health so much, what about foods that *contain* sugar? Are there no sugars (or carbs) that are safe—or safer—to eat?

The *glycemic index* (GI), concocted in 1981 by two researchers at the University of Toronto in Canada, presumably addresses this issue of safety. The index classifies carbohydrates according to how fast they raise glucose and insulin levels in the bloodstream. Foods that raise glucose levels *quickly* have a *high glycemic score*, and are considered unsuitable for blood sugar control. Foods that raise glucose levels *slowly* have a *low glycemic score*, and are considered desirable for blood sugar control. At the very low end of the scale are animal proteins, which contain virtually no carbs. Non-starchy vegetables such as broccoli, leafy greens and zucchini are also low-carb. As one might expect, grains, beans, fruits, and root vegetables (like potatoes and carrots) load the system with easily absorbed sugars, as do concentrated sweeteners.

The problem with the glycemic index is that it’s not scientific. Different databases give radically different advice as to what’s low carb/low glycemic. According to the Official Website of the Glycemic Index and Database (note the authoritative tone implied by the word “official”), “High is 70 and above; medium is 56 to 69; low is 55 and under.”⁸⁷ Not surprisingly, we’re allowed to enjoy grains and noodles. Another website encourages the drinking of wine and beer—even though alcohol is a very rapidly metabolized carbohydrate (which is why people are supposed to drink slowly). One way to make grains and liquor more acceptable is to raise the baseline for a low score. But reassigning starchy foods to the more desirable “low GI” category doesn’t fool the body into assimilating them differently. For many people, foods in even the 30 to 50 range can produce insulin and blood sugar spikes. This is why the more sedate Harvard School of Public Health database states: “In general, a glycemic load of 20 or more is high, 11 to 19 is medium, and 10 or under is low.”⁸⁸ If you liked to eat carbs, which database would you prefer?

Another problem with the glycemic index is that it lacks context. Numerous studies show that blood glucose levels from a food can vary, depending on how the food is cooked or prepared, whether it’s eaten mashed or whole,

Balancing Your Carbohydrates

Not all carbs are bad. While refined carbohydrates cause problems, *some* complex carbohydrates are beneficial. The fiber in seeds, nuts, and vegetables prevents sugars from leaving the small intestine too quickly and overloading the bloodstream. The thyroid and adrenals cannot function properly without some carbohydrate. Along with protein, carbs assist the liver with its detoxification tasks. Carbs help maintain proper hydration of the body, as they directly influence electrolytes and kidney health. A diet too low in carbohydrates may lead to cardiovascular distress. If muscles don’t get enough carbs, they become dehydrated and weak, and can even develop cramps. Physically active people have both a higher need for carbs and an increased ability to metabolize carbs than their inactive counterparts.

Resistant starches—indigestible carbohydrates in green bananas, yams, peas and a few other foods—are now being studied. They aren’t utilized by the body as fuel, but feed the beneficial gut flora and are most beneficial when eaten cold. They should be eaten in moderation by insulin-sensitive people.

The bottom line? When in doubt, eat lots of leafy greens and other non-starchy vegetables.

and whether the targeted food is consumed with fats and proteins (which reduce the GI of the targeted food). These are too many variables for the GI to be of much use! This is why a June 2009 *Journal of Nutritional Science and Vitaminology* article—“Is glycemic index of food a feasible predictor of appetite, hunger, and satiety?”—answered “no!” in response to its title.⁸⁹

In light of this information, one must wonder whose interests these glycemic index databases are serving.

“If It’s Sweet, It Must Be Sugar.” One clue to how the body reacts to sweet substances lies in our *taste receptors*. Both the brain and the gastrointestinal tract (which includes the mouth) contains these receptors. In response to food in the mouth, the body secretes not only digestive enzymes but also *hormones*. One scientist suggests that the hormones, which are secreted into the bloodstream, “may have physiological actions on important functions in the body . . . [which] vary with the site at which the hormones act.”⁹⁰ Some hormones emerge from endocrine-like cells in the lining of the gut, others have been identified in nerves, and still others appear to be located in both the lining of the gut and nerves. Another researcher writes:

[Sugar] is such a potent stimulator of eating in humans and many other animal species. . . . Stimulation of . . . [a given] taste receptor by sugars or artificial sweeteners activates intracellular signaling elements . . . which stimulate peripheral gustatory nerves and, in turn, brain gustatory pathways. The central processing of the sweet taste signal typically activates feeding circuits as well as brain reward systems that promote sweet appetite. Brain autonomic centers may also relay information via the vagus nerve to prepare the digestive system for the incoming carbohydrate-rich food. Digestive and absorptive processing of the ingested food is further coordinated by sugar sensing in the intestinal tract, which modulates nutrient absorption, hormone release, and gastrointestinal motility, and generates satiation signals to the brain that terminate the meal. . . .

The same . . . sweet taste receptor that initiates sugar ingestion in the mouth also detects sugar in the intestinal lumen and triggers physiological responses that promote sugar absorption and metabolism.⁹¹

More simply put, sweet foods stimulate sweet-taste receptors, which promote neurological activity and hormone production. These hormones are responsible for feelings of fullness after a meal. *These responses occur regardless of whether a sugar or an artificial sweetener has*

been ingested, negating any claims that artificial sweeteners don’t stimulate insulin production and are therefore safe. I’ll explore this in detail shortly.

Sucrose / Table Sugar / White Sugar

Sucrose—commonly known as “white sugar” or “table sugar”—is a good starting point for our discussion of sweet tastes because it’s used as the standard against which all other sweeteners are compared. Sucrose is actually a complex molecule made up of equal parts of the simpler “ose” sugars glucose and fructose. It’s broken down in the body by naturally-occurring enzymes. White table sugar is so omnipresent, it seems like a “regular” food. But this purified, white crystalline powder is so highly processed, its manufacture more accurately evokes a chemist’s lab than a cook’s kitchen. White sugar was first derived from sugar cane, and later sugar beets. The majority of sugar beets are now genetically engineered, so the only way to know that your sugar is not made from GMOs is to make sure the label reads, “from sugar cane.”

Sugar cane, which originated in New Guinea, was later brought to Southeast Asia, China, the Pacific and Mediterranean regions, and then other parts of the world. Before a cheap extraction process for sugar was developed, the delights of sugar cane were limited to people who lived in warm climates where it grew. They’d simply cut a piece off the stalk and suck on it. Once people sampled its intoxicating flavor they began to crave it. It was the attempts to satisfy people’s sweet tooth that gave sweet white sugar a very bitter history.

Everything about sugar was labor-intensive and expensive. The plant proved difficult to care for, cane cutting required exhausting manual labor, and the sugar could be extracted only with substantial processing. Plentiful, cheap labor was sought. So in 1512, a slave trade was born when Africans were kidnapped and forcibly brought to the West Indies to work on the sugar plantations. At the beginning of the sugar trade, the largest market for sugar was Europe. At that time, the confection was so expensive that only royalty and the upper classes could afford it. However, once improved methods of extraction were invented, the price of sugar dropped, and common peasants had the privilege of developing almost as many cavities as their wealthier neighbors.

Creating white sugar involves many steps. First the leaves are stripped from the cane. Next, the cane is crushed, liberating the sweet liquid from the inedible fibrous stalk. Then the pulp is boiled several times at high heat to evaporate the liquid and separate it from the sugar crystals. (The dark liquid produced during this phase of manufacturing is sold as *molasses*; see the entry directly

below.) The crystals are then passed through an activated charcoal filtration system to remove what sugar refineries call “impurities”—particles that contain the residual trace minerals. (Half the sugar cane in the US uses activated charcoal made from charred animal bones, which withstand high heat well.) Finally the crystals are bleached with chemicals. So-called “raw” sugar, and the more common brown sugar, receive their light brown color from a tiny bit of molasses mixed back in to the crystals. Sugar made from beets goes through a comparable process.

The vitamins, minerals and enzymes originally in the cane plant are no longer in the white sugar crystals. Regardless of the sugar’s source, it’s transformed from a potentially nourishing plant into uniform crystalline granules with no nutrient content whatsoever. In many ways, eating refined white sugar is like taking a drug. No wonder some writers call sugar “sweet heroin”! Sugar is as different from its original plant as heroin is from poppies.

Molasses

The word *molasses* is related to a Greek word meaning “honey.” Molasses, sometimes also called *treacle*, is the thick syrup produced from boiled sugar cane juice. It was originally considered a byproduct of sugar manufacture. Molasses sold in stores for human consumption is from sugar cane, while beet molasses is considered inedible and is mainly used as animal feed.

There are three grades of molasses: mild, dark, and blackstrap. Mild (the “first” molasses) has been subjected to only one boiling, so it has the highest sugar content. Dark (the “second” molasses), created from a second boiling and sugar extraction, is slightly darker, less sweet, and has a stronger flavor. Blackstrap (the “third” molasses) is from the third boil. Although most of the sucrose from the juice has crystallized (and will be packaged as sugar), blackstrap molasses still has a high sugar content, and most of its calories are from sugar. However, blackstrap molasses does contain significant amounts of iron and a fair amount of manganese, as well as calcium, copper, magnesium, potassium, selenium, and Vitamin B6. Thick, sticky blackstrap molasses is often taken in warm water as a tonic. It has traditionally been added to baked beans and gingerbread, giving them their characteristic flavor.

If young green (immature) sugar cane is used to make molasses, it’s treated with sulfur dioxide—an irritating compound different from naturally occurring sulfur—partly to lighten the color and mostly to eliminate bacteria and molds. This is called *sulfured* molasses. *Un-sulfured* molasses is made from mature sugar cane and doesn’t “need” to be treated with sulfur, probably because there’s enough sugar present in the cane to act as its own

preservative. Many people are allergic or sensitive to sulfured foods, which can cause severe gastrointestinal disorders, respiratory distress, and skin rashes. All molasses is made with sulfur dioxide unless it’s labeled “unsulfured.”

Sorghum molasses is made from various species of the sorghum plant, which is cane-like and also has a high sugar content. This type of molasses is used mostly as cattle feed.

Molasses affects the body in ways similar to refined white cane sugar, although in healthy people its mineral content may mitigate some negative effects of the sugar.

Dehydrated Sugar Cane Juice

Rapadura® and Sucanat® are two brand names of organic, unrefined, unbleached whole cane sugar. The process is simple: sugar cane is squeezed, filtered (to remove plant particles), heated to remove excess water, and then cooled so that grainy brown granules form. The liquid—roughly equivalent to molasses acquired during conventional sugar processing—is not separated from the sugar; so the basic edible (non-fibrous) contents of the sugar cane plant remain intact. The flavor is reminiscent of caramel.

This sugar is comparable, in amounts and uses, to refined white cane sugar. It affects the body similarly.

Maple Syrup

Maple syrup is the boiled, condensed amber sap (literally, plant blood) of sugar maple, black maple and red maple trees. It’s produced only in eastern North America in climates that have cold winters. From late winter to early spring, when the nights are still cold or freezing and the days are a bit warm, holes are drilled into the bark, and buckets or trenches near the trees collect the sap. Maple tree sap is thin, watery, almost tasteless, and very low in sugar. It takes a minimum of 40 gallons of maple sap to produce 1 gallon of pure maple syrup. When manufacturing is complete, maple syrup (and solid maple sugar) contain about 65% sucrose.

To a tree, a hole in its bark is a wound, so it tries to seal it. To prevent the hole from closing and to continue accessing sap, syrup processors usually place formaldehyde tablets in the hole. Although the use of formaldehyde is discouraged today (and in many places, is against the law), fertilizers and pesticides—as well as chemical anti-foaming agents—are still permitted to be used, unless the label states otherwise or the product is certified organic.

What used to be called “Grade A” maple syrup was more refined, contained fewer minerals and had a lighter taste than Grades B or C, which were darker and had more robust flavors. Maple syrup producers now call everything “Grade A” (they don’t want consumers to think that they’re getting inferior syrup), but they do classify them by color and taste.

Maple syrup contains a fairly high amount of manganese, and smaller amounts of zinc, potassium, iron and calcium. All the enzymes present in the raw tree sap are destroyed when the sap is boiled. Not surprisingly, the unboiled, unprocessed sap isn't very sweet, and as it's full of minerals, it's drunk as a tonic in Asia. During maple season, Koreans are known for drinking gallons of raw sap over the course of several days while detoxifying in the sauna.

Maple syrup has a wonderful, distinctive flavor. Cheap supermarket imitations contain no actual maple syrup, but are loaded with corn syrup, artificial flavorings, and chemicals. Maple syrup (not the raw maple sap) affects the body in a way similar to refined white cane sugar.

Coconut Sugar / Coconut Palm Sugar / Palm Sugar / Coconut Nectar (Sap)

To make coconut sugar, nectar from the flower buds of the coconut tree is boiled to evaporate the water. Then it's dehydrated, leaving granules with a taste similar to brown sugar. Coconut sugar, which contains between 70% and 79% sucrose and about 10% each of fructose and glucose, is touted as healthy because of its naturally low fructose content (see details on fructose beginning on page 330).

Palm sugar is derived from the sap of the sugar palm (not the coconut palm), and boiled to concentrate the sweetness. Its taste is similar to that of maple syrup. Coconut and palm sugars are often mistaken for, and used interchangeably with, each other. This makes it difficult for consumers to know exactly what they're getting.

Coconut nectar, readily distinguishable from the other two, is a thick syrup made from coconut tree sap. Proponents assert that it contains live enzymes because it presumably doesn't require intense heating to extract it. Depending on the source, one or more of the sugars is claimed to contain Vitamins B1, B2, B3, B6 and C, as well as potassium, magnesium, zinc and iron. However, these are tiny amounts. The end products are still sugar.

Date Sugar

Dates are 80% sugar. Depending on the kind of date and whether it's fresh or dried, its types, amounts, and ratios of sugars vary. Fresh dates (which are very soft) contain glucose and fructose. Dry dates contain more sucrose.

To make date sugar, the pits are removed from the dates. Then the fruit is dried and ground into fine granules. Date sugar has all the fiber and nutrients of the freshly picked fruit. It's particularly high in potassium, and contains a few trace minerals (not many vitamins). All of its enzymes are intact, as long as the fruit is dried at low enough heat. Date sugar affects the body in a way similar to refined white cane sugar.

Honey

Honey is made by honeybees from nectar that they gather from flowers. The nectar—clear liquid that pools at the end of the flower's female sex glands—is comprised of about 80% water and some complex sugars. After the nectar becomes honey, the nutrient composition is about 80% sugars, 18% water and 2% amino acids, as well as some minerals, vitamins and pollen. On average, fructose comprises 38% of the natural sugars and glucose, 31%; but the ratios are different depending on the honey.

The natural antibiotic properties of honey have been known for centuries, making it popular as both an internal medicine and a skin dressing. Honey contains ample antioxidants, including hydrogen peroxide (H_2O_2). The H_2O_2 is produced by the enzyme glucose oxidase, which is injected into the nectar by the bee during the honey making process. Due to its high sugar content, raw unheated honey pulls out water from bacteria, which dehydrates and kills them. Honey contains enzymes that scavenge pathogenic waste and other debris. It also interferes with the ability of bacteria to produce biofilm, a hard gooeey shelter that protects pathogens. All honeys are easy to digest, and are used in cough syrups because their smooth, thick texture coats and soothes the throat.

To extract nectar from flowers, the bees use their long, tubular tongues like straws. Then they store the nectar in sacs, which function like second stomachs, located in their hind legs. Honeybees must visit between 100 and 1,500 flowers to fill these sacs (which is why they're such valuable pollinators of crops). At optimal capacity, the sacs on each bee hold about 70 mg of nectar, weighing about as much as the bee. Once the sacs are full, the field worker bees return to the hive and pass the nectar to the hive worker bees, who suck the nectar from the sacs. For about 30 minutes, the hive bees chew the nectar, essentially predigesting the fluid. Enzymes from their mouths break up the complex sugars into simpler sugars,

Manuka Honey as Medicine

Of all the honeys, Manuka, from the tea tree flower, contains the highest amount of methylglyoxal (MGO), a natural antibacterial compound. Manuka is highly effective against resistant bacteria, including *Staphylococcus aureus* (which causes respiratory infections) and *Helicobacter pylori* (which causes stomach ulcers). Manuka is commonly applied to wounds, cuts and infections, gargled for sore throats and dental disease, and eaten to eradicate ulcers. It's graded according to its bioactivity: UMF stands for "Unique Manuka Factor." Designations of 12+ to 15+ are usually sufficient for antibacterial properties.

Orthorexia, the New Eating Disorder

A Newly Named Affliction. What happens when you are “too” concerned about the quality of your food? In the United States, thanks to medical doctor Steven Bratman, you now have a new disease: *orthorexia nervosa*. This new “illness” describes undesirable behavior and attitudes that center around food.

Orthorexia Defined. The term *orthorexia nervosa* literally means “correct appetite.” Loosely translated, it means “correct diet.” Even more loosely translated to refer to the general population, it means “the desire to eat healthfully, which is a disease.” Whereas the eating disorders anorexia nervosa and bulimia nervosa pertain to the *quantity* of food consumed, orthorexia pertains to the *quality* of the food.

Bratman’s 2001 book, *Health Food Junkies: Overcoming the Obsession with Healthful Eating*, describes people who have restricted their diets so much that their health has suffered. Bratman himself is familiar with various diets: raw, vegetarian, macrobiotic. When he was younger, Bratman (a self-diagnosed “orthorexic”) rigidly adhered to strict diets on the advice of “food gurus” whom he blindly obeyed. Later as a physician, Bratman was consulted by rigid clients who likewise abused eating. Some couldn’t stop obsessing about food for so many hours, that they could do nothing else. Macrobiotic parents, adhering to what they believed was a rule about limiting water intake, allowed their child only four ounces of water a day—causing the child to become dehydrated. A vegan husband, convinced of his moral correctness, divorced his wife—because she ate meat. And a woman who refused to eat animal protein became deficient in vital amino acids—and, fainting from weakness, crashed the car she was driving and died. In fact, several people died from malnourishment because they insisted on adhering to unrealistic, inflexible theories of eating instead of paying attention to legitimate, but suppressed, messages from their own bodies.

Such extreme behaviors indicate very real and severe emotional problems. The psychological root could be a need to feel in control over one’s life (in any area), a need to feel safe (by controlling food intake), the desire to be “perfect” (by adhering to an unyielding, demanding protocol), or the need to feel special (by eating in ways that are different from the eating habits of most others). Unsurprisingly, rigid individuals often become intolerant of other people’s views about food and health. Convinced that there’s only one correct way to eat (their way), they follow dietary protocols as one would a religion. The diet religion helps one feel holy, superior, and achieve a sense of belonging to a group of people who eat similarly and may tend to proselytize.

A Psychological Analysis. While Bratman correctly observes and justifiably critiques extreme behaviors, the focus on food itself as the disease is misguided. Instead, the underlying emotional issues that are expressing themselves through eating should be addressed. Let us use rape as an analogy. Today, we understand that rape is not related to sex, love or lovemaking. It *is*, however, related to the need to feel powerful by controlling others (and a venting of rage). Similarly, rigid dieting is not related to nutrition or health. It *is*, however, related to the need to feel powerful and seize control because *other* areas of one’s life feel so out of control. *Any* dysfunctional emotion can manifest in many ways, including how (and how much) one eats. Sick and not healthy people consult Bratman, so he has undoubtedly encountered a disproportionately large number of people who abuse food. But what about those who don’t feel a need for his services? Or people whose illnesses have induced them to seek new ways to heal?

A Natural Health Analysis. The creator of this new disease doesn’t always understand (or respect) natural medicine. Ignoring the data on heavy metals and brain dysfunction, he calls people fanatics if they refuse to cook in aluminum pots. He believes that all raw foods aficionados want to escape their bodies because they like the feeling of lightness, not understanding that the high biophoton levels in raw foods may cause one to feel more connected to energy than to matter. And he insists that people with allergies should still try to eat allergenic foods because—remembering how isolated and bad *he* felt when he embraced diets requiring all his focus and time—he worries that allergic persons will harm *themselves* by becoming socially isolated. Plus, he admits, he doesn’t know how to cure allergies.

A Political Analysis. Those who benefit from the invention of “orthorexia” include agribusinesses (which manufacture fake food) and the medical-pharmaceutical cartel (which loves to assign negative labels to people who have normal, justified responses to abnormal situations). Although Bratman’s book was first published in 2001, orthorexia has been widely publicized recently. Are the fake food companies scared by the public’s demand for clean food?

Many products sold to North Americans by Nestlé, General Mills and other conglomerates contain dangerous chemicals, additives, and genetically modified ingredients. But virtually identical products created for export—to Europe, South America, Africa and Asia—are free of these contaminants. The products don’t contain junk because the overseas markets refuse to consume it. People outside the US would laugh if they received a diagnosis of orthorexia!

Meanwhile, the US establishment media refuses to publicize the dangers of what agribusiness tries to foist on the public as “food”—thus supporting attempts to pathologize those who protest the adulteration of our food supply. But despite the food industry’s marketing tactics, the healthy eating movement is gaining momentum. More Americans are trying to eat better, and efforts to persuade people to eat unsafe crap aren’t going well. In the United States, many multinational corporations and the Grocery Manufacturers Association spend millions of dollars trying to defeat proposed laws forbidding the planting of genetically modified crops and requiring that such “foods” be labeled. In some states, the bills were narrowly defeated by only a few hundred votes—and there were unusual delays before the votes were counted. Did someone use that extra time to tamper with the electronic voting machines?

Bratman compares orthorexia to alcoholism and heroin addiction. However, one valid point that he does make—that some people follow rigid diets instead of dealing with their emotions and paying attention to their actual nutritional needs—has been either inadvertently misinterpreted or deliberately distorted. (The sensationalist title of his book doesn’t help.) Now, someone is diagnosed as having orthorexia if she or he:

- ◆ Spends more than three hours a day thinking about healthy food. (What if the person is a professional bodybuilder, meal planner or dietician, or has cancer?)
- ◆ Continually limits the number of foods consumed. (What if the person has food allergies?)
- ◆ Abstains from foods formerly enjoyed. (What if the “formerly enjoyed” food had a negative impact on the person’s health?)
- ◆ Ensures cleanliness of the food by insisting that it be minimally handled and adequately washed. (What if the food is heavily sprayed produce? And does this mean that employees required to wear latex gloves while handling food are orthorexic?)
- ◆ Plans tomorrow’s menu today. (This can include cooks, busy parents organizing meals for their families, someone taking food out of the freezer for the next day—practically everyone.)
- ◆ Refuses to go to a restaurant that doesn’t serve clean or non-allergenic food, and thus becomes socially isolated. (Must “being social” always involve eating?)

Medicine also claims that people are orthorexic if they try to avoid foods containing or contaminated by:

- ◆ Pesticides and herbicides.
- ◆ Genetic modification.
- ◆ Artificial colors, flavors and preservatives.
- ◆ Heavy metals (like arsenic in rice or lead in chocolate).
- ◆ Unhealthy fats, sugars, or added salt.

Some health professionals recognize orthorexia as a mental disorder. The National Eating Disorders Association urges the afflicted to receive treatment—psychotherapy and selective serotonin reuptake inhibitor (SSRI) drugs. The most popular pharmaceuticals are Zoloft®, Prozac®, Luvox®, and Paxil®. The justification for prescribing these drugs is the supposed concern that restricting one’s diet “excessively” can cause anxiety, depression, guilt and shame.

Are most people who want to eat clean food mentally ill? Do they truly have orthorexia? Or is it that over 90% of the food supply in North America is tainted, and people want to be as healthy as possible by eating clean foods? The definition of orthorexia is so vague and all-encompassing that any health-minded individual can be termed neurotic. Mike Adams calls orthorexia “the healthy-eating disorder.” He suggests why the medical establishment attacks healthy eaters:

Increased mental and spiritual awareness is only possible while on a diet of living, natural foods. Eating junk foods keeps you dumbed down and easy to control. . . . It literally messes with your mind, numbing your senses with MSG, aspartame and yeast extract. People who subsist on junk foods are docile and quickly lose the ability to think for themselves. They go along with whatever they’re told by the TV or those in apparent positions of authority, never questioning their actions or what’s really happening in the world around them.

In contrast to that, people who eat health-enhancing natural foods—with all the [naturally occurring] medicinal nutrients still intact—begin to awaken their minds and spirits. Over time, they begin to question the reality around them and they pursue more enlightened explorations of topics like community, nature, ethics, philosophy and the big picture of things that are happening in the world. They become “aware. . . .”⁹²

Food allergies, diabetes, insulin resistance, hypoglycemia, celiac disease, Metabolic Syndrome, and other related conditions are escalating at unprecedented rates. The evidence is irrefutable: these conditions substantially improve, or are eliminated entirely, with a better diet. People who listen to their bodies and feel better by eating a certain way—even if that way seems rigid to those who follow a typical diet of junk—are mentally healthy. They love themselves enough to take good care of themselves.

Let us consider that yet another disease may be developing, one that affects medical personnel in particular. It’s called *in opus ad creare infirmitates*, which means “the need to create illnesses.”

and make the honey less susceptible to bacterial infection during the time it's stored in the hive. The enzymes also help the water in the nectar to evaporate, which thickens the fluid. Finally the bees deposit the nectar into the wax honeycomb hive, continuing the evaporation process by fanning their wings over the nectar. After the nectar has aged and the fluid is thick, the bees seal the comb with more wax to keep the honey clean and free of contaminants. The honey is stored until the bees need to eat it. Honey is the bees' sole source of sustenance during cold weather and food shortages. In one year, the average colony of bees eats between 120 and 200 pounds of honey.

Raw unheated honey, although high in enzymes and some minerals, is so rapidly absorbed into the bloodstream that it can cause extreme drops in blood sugar. With sugar-sensitive people, honey may cause even more severe blood sugar fluctuations than refined white cane sugar. Honey also decays teeth faster than table sugar; there are reports of honey bears with tooth decay! If honey is heated (as in cooking and baking), its nutrients are destroyed.

Some sources warn not to feed honey to infants under one year old, due to possible contamination by spores of *Clostridium botulinum* bacteria. (The bees are presumed to bring the spores to the hive.) *C. botulinum*, which causes infantile botulism, is highly contagious to very young babies due to their lowered immunity and immature digestive tracts. However, I have not seen conclusive proof that honey is to blame for this condition. According to a 1999 Health Canada report, "Random surveys of honey produced in Canada indicate that *C. botulinum* spores are rare. Spores of *C. botulinum* are present in less than 5% of honey and are typically found in very low numbers." Furthermore, only "3 of the 16 infant botulism cases (as of June 1999) reported in Canada since 1979 have been associated with honey."⁹³ A less than 20% chance, over a period of 20 years, hardly constitutes proof to me. Could it be that one isolated report is responsible for the practice of not feeding infants honey? Besides, it's reasonable to assume that the natural antibiotic properties of honey (especially Manuka) would protect against such infection. The susceptible infants may have had exceptionally poor digestion. Were they breast fed? The report doesn't say. A far greater danger to infants than *Clostridium botulinum* spores may be the sudden drop in blood sugar levels that all honey can cause.

In the last several years, almost half of all bee colonies in the United States died. They were killed by a combination of the pesticide glyphosate and electropollution.

If the bee disappeared
off the face of the earth,
man would only have
four years left to live.

—Maurice Maeterlinck
French poet
The Life of the Bee, 1914

Fructose

Fructose is the naturally occurring sugar found in fruit. When in the form of fine crystals, fructose is used like sucrose. However, because fructose is twenty times sweeter than sucrose, less can be used at one time. Fructose, present in many baked goods and condiments, is heavily marketed to the holistic health sector as an alternative to white table sugar. But this is misleading hype, as fructose is a highly refined, synthetic product.

How is fructose obtained? One would think it a simple matter to take apples, berries, peaches or other fruits and extract the fructose from them. However, the process is fairly involved. Just one quick Internet search yielded a whopping 266 patents for fructose *manufacture* (not mere extraction, which apparently isn't possible). The white powder can be produced from many substances, including agave (discussed later). But most fructose is made from corn, a common allergen—and a crop that's almost entirely genetically engineered, at least in the United States. According to one patent, "A process is described for the

production of fructose from glucose. An aqueous solution of glucose is converted to D-glucosone by an enzymatic process. D-glucosone is then converted to substantially pure fructose by chemical hydrogenation. Fructose may be recovered in crystalline form."⁹⁴

"Chemical hydrogenation" sounds a lot more ominous than relatively simple boiling to obtain dehydrated sugar cane juice. Therefore, the harm caused by this synthetic product shouldn't surprise anybody. Like white table sugar (sucrose), crystalline fructose contains no enzymes, vitamins or minerals, which makes it necessary for the body to cannibalize its own micronutrients in order to process the sugar. Even when fructose is ingested in its whole food state, as a component of fruit, some unique problems arise. Health writer Bill Sanda compares the effects of fructose to those of other sugars:

In humans, fructose feeding leads to mineral losses and, especially, higher fecal excretions of iron and magnesium than [does sucrose feeding]. Iron, magnesium, calcium, and zinc balances tended to be more negative during the fructose-feeding period as compared to balances during the sucrose-feeding period. . . . In studies with rats, fructose consistently produces higher kidney calcium concentrations than glucose. Fructose generally induces greater urinary concentrations of phosphorus and magnesium and lowered urinary pH compared with glucose.⁹⁵

Fructose and Uric Acid, Obesity, and Gout

Like all concentrated sweeteners (except for Manuka and a few other honeys), fructose, the sugar in fruit, causes serious health problems. However, it creates other problems as well that are unique. In his book *The Fat Switch*, Dr. Richard Johnson describes the effects of fructose that he learned first from research on animals, and later from research on human beings. Some of these effects may surprise you.

It's well known that before hibernating, animals gorge themselves on food, much of it fruit. Fructose produces ravenous hunger, which makes the animals eat even more. Fructose is not readily available to the cells as energy. Instead, it causes a rise in uric acid levels, which stimulates the body to create fat. However, the uric acid prevents that fat from being used as energy. Instead, the body stores the fat, which lodges in the blood, liver, and fatty tissues. This process is useful and necessary for animals who hibernate—after all, they must live off their fat stores for the entire winter—but it's downright counterproductive for humans who don't have the ability (or desire) to hibernate. The sad truth is, many people who eat fructose don't lose fat quickly, and now we understand why.

To obtain yet another perspective on this special property of fructose, let's compare it to glucose. If the same number of calories of fructose and glucose are ingested, fructose is much more likely to cause weight gain than the glucose. This is because, at the beginning of fructose metabolism, the liver, kidneys and small intestine produce an enzyme called *fructokinase*. Fructokinase catalyzes a cascade of other biochemical reactions, one of which results in the production of yet another enzyme that allows excess uric acid to accumulate. This increase of uric acid, Johnson points out—which *always* accompanies the consumption of fructose—causes a major stress response in both animals and humans.

Excess uric acid in the bloodstream damages the kidneys, even to the point of causing renal failure. Similarly, uric acid inside the cells causes equal harm because it creates free radicals leading to the breakdown of tissue and the accumulation of waste. This disrupts the coenzyme *ATP* (*adenosine triphosphate*), which is responsible for transporting chemical energy within cells for metabolism. Once ATP production is blocked, the *mitochondria*—tiny, independent, energy-producing fuel units on which we depend for vitality and life—malfunction. Then, the following conditions are either exacerbated or caused outright:

- ◆ Excessive hunger
- ◆ Increased fat stores
- ◆ Insulin resistance / metabolic syndrome
- ◆ Diabetes
- ◆ High blood pressure
- ◆ Gout (a type of arthritis)
- ◆ Hyperactive immune response
- ◆ Increased levels of inflammation

A diet containing fructose can quickly create addiction—not only to sweet tastes, but in time, to overeating in general. This is partly due to the disruption of satiety signals reaching the brain. Under normal conditions, *leptin*, a hormone released from fat cells, tells the body to stop eating. However, studies have shown that fructose does not stimulate the release of leptin as effectively as glucose does. Moreover, the leptin that's released from the ingestion of fructose isn't very effective because *fructose also induces the body to become resistant to leptin's messages*. This resistance in part comprises what has become known as "Metabolic Syndrome." People who are already overweight are affected more adversely by fructose than those who are slim or of normal weight.

The rise in the intake of sugar correlates to an alarmingly high upswing in the rates of obesity and diabetes. Research shows that it takes 20 years from the time that sugar (sucrose) is introduced to a culture to see a rise in diabetes. However, startling (and convincing) data on the dangers of eating fructose shows that high amounts will induce similar health problems in only *two weeks*.

Fruit has received a lot of positive press. We are told that fruit is a highly beneficial, nutrient-packed, "fresh from nature," portable alternative to candy, cake, and other sweets. We are exhorted to "eat our fruits and vegetables," as though the two are in the same category—when in truth, they have quite different properties and functions. Especially for people who are ill, fruit's positive reputation is undeserved. It's true that fruit contains minerals, some vitamins, and fiber. And a craving for sweet tastes may have served our ancestors well in times of famine long ago. But in modern times, these cravings can be a curse. Considering the prevalence today of virulent infections and metabolic disturbances—carbohydrate intolerance, Syndrome X, diabetes, and impaired liver function (to mention just a few)—using fructose as a sweetener is downright foolish. Even eating fruit on a regular basis may be compromising one's health.

In addition, Sanda writes, “hypertrophy of the heart and liver” develops in young male experimental animals fed fructose. “Liver, heart and testes exhibit extreme swelling, while the pancreas atrophies, invariably leading to death of the rats before maturity. . . . The females [do] not develop these abnormalities, but they [reabsorb] their litters.”⁹⁶ In other words, the embryos in pregnant females simply dissolve *in utero*.

Fructose actively interferes with copper metabolism, making it impossible for the body to form collagen, a gelatinous substance found in connective tissue, bone, and cartilage. This fructose-induced copper deficiency leads to anemia, blood sugar abnormalities, bone defects, cardiovascular problems (including heart arrhythmia and heart attacks), and infertility. Fructose has also been shown to impair memory in rats. (Fortunately, docosahexaenoic acid—the Omega 3 fatty acid more commonly known as DHA—can help repair neural tissue damage.) People who cannot digest fructose sometimes exhibit symptoms similar to those of lactose intolerance: abdominal cramping, diarrhea or constipation, flatulence, stomach pain, and other gastrointestinal problems.

The uniquely negative properties of fructose are due to how it’s processed in the body. Unlike glucose, which is easily utilized by all the cells, fructose can be metabolized *only* by the liver. But the liver is able to transmute and store only limited quantities. For many people, even a small amount of fructose is too much. With just one glass of fruit juice, state clinical nutritionist Ann Louise Gittleman and colleagues, “the conversion process of fruit into glucose and then into fat can be magnified.”⁹⁷ Such “magnification” can eventually cause fatty deposits and cirrhosis of the liver—similar to problems developed by people who drink too much alcohol. Also in the liver, fructose seizes all the ATP energy stores. (ATP is an acronym for the energy molecule *adenosine triphosphate*.) A loss of ATP makes us feel tired, stressed, and depleted.

Fructose is often marketed as a non-reactive sugar for people with diabetes, based on its reputation of slow release into the bloodstream. But the truth is, blood glucose levels are very erratic if fructose is ingested. Fructose, Sanda emphasizes, “reduces the affinity of insulin for its receptor, which is the hallmark of [one type of] diabetes.”⁹⁸ If glucose cannot enter a cell, it cannot be metabolized, and instead it remains in the blood. To drive the glucose out of the bloodstream and into the tissues, the pancreas secretes even more insulin—and at this point, the body can become insulin-resistant (and thus have a significant elevation of triglyceride levels). This is why journal articles exist with such titles as “Consuming fructose-sweetened, not glucose-sweetened, beverages increases visceral adiposity and lipids and decreases insulin

sensitivity in overweight/obese humans”⁹⁹; “Excessive fructose intake induces the features of metabolic syndrome in healthy adult men: role of uric acid in the hypertensive response”¹⁰⁰; and “A causal role for uric acid in fructose-induced metabolic syndrome.”¹⁰¹ More details of the relationship between fructose and uric acid accumulation is described in the Insert on page 331, “Fructose and Uric Acid, Obesity, and Gout.”

Most people are not informed about the effects of fructose. Among all the sugars, fructose seems to most readily disable one’s ability to feel full. It’s pointless to even consider using fructose crystals as a sweetener, especially when delicious whole fruit is available.

High Fructose Corn Syrup (HFCS)

High fructose corn syrup (HFCS) is a relatively new invention. Until the 1970s, most of our sugar was derived from cane or beets. But HFCS became plentiful and cheap to produce after the US government began subsidizing commercial corn farming. The syrup mixes well, is easy to store, and extends the shelf life of whatever other processed food it’s in. As a result, HFCS is in almost every packaged and prepared food imaginable: bread, cereal, soda, condiments, baked goods, candy, dairy products, canned and bottled vegetables and fruits, sauce, snacks, soup, jam, salad dressings, cough syrup, and even meats.

Unlike standard corn syrup, which is mostly glucose, HFCS is about 45% glucose and 55% fructose. This makes it much sweeter than its counterpart. And, Sanda points out, HFCS “can be manipulated to contain . . . up to 80% fructose and 20% glucose. Thus, with almost twice the fructose, HFCS delivers a double danger compared to sugar [sucrose].”¹⁰² HFCS-90 is 90% pure fructose.

HFCS is manufactured from corn starch. Fermented by three enzymes, the starch is turned into glucose, and then processed to yield high fructose levels. A 2009 *Environmental Health* article showed that almost half the HFCS samples studied were contaminated by mercury.¹⁰³ The corn used in any corn syrup is certain to be genetically engineered. Many people are also allergic to corn. See Sidebar, “Foods and Personal Care Products that Contain Corn Derivatives or Byproducts.”

Industry is now allowed to label HFCS “corn sugar,” “maize syrup,” “fructose syrup,” or simply “fructose.”

Agave Syrup

The agave species—large succulent (water-retaining) plants probably related to the lily—grow in Mexico, in the southern and western United States, and in central and tropical South America. The nectar-producing plants for the burgeoning North American agave syrup market are in Mexico. Their fleshy spiked leaves cover a pineapple-

shaped core that contains a sweet sticky juice. Depending on the species, growing conditions and climate, an agave plant has a lifespan of 8 to 15 years. The leaves of a mature plant are 5 to 8 feet tall, and the plant itself ranges from 7 to 12 feet in diameter.

Agave nectar begins to ferment a few hours after it's taken from the plant. The ancient Mexicans developed a drink made from fermented agave juice, the predecessor of tequila. Modern tequila is made from the blue agave plant.

Most agave syrup consists of about 80% to 95% fructose, with the remainder glucose, depending on the plants providing the syrup and the manufacturing process that is used. Some sellers claim that agave contains inulins, which are naturally occurring polysaccharides (several simple sugars linked together) that are a primary food for intestinal flora. (The gas and bloating that some people experience after ingesting inulin are due to the increase in friendly flora, which digest debris in the intestine.)

Agave dissolves easily in cold liquids, doesn't crystallize like honey, and is sweeter than sugar when used in recipes. Because agave is watery, consumers are advised to use less liquid when baking.

Some brands of agave nectar come in light and dark varieties, like molasses and maple syrup. Darker agave is subjected to less filtering and processing. Lighter is subjected to more. Darker agave, which tastes a bit like molasses, is reported by manufacturers to contain higher concentrations of iron, calcium, potassium, and magnesium. The lighter liquids, which are bland and have almost no taste, are said to contain lower concentrations of minerals. I have not seen the percentages of minerals listed anywhere for any agave product.

Proponents of agave claim that its glycemic index score is lower than that of any other natural sweetener. Agave is marketed as good for people with diabetes, but it contains mostly fructose. Knowing what we do about high fructose levels and body chemistry, it's reasonable to assume that continued use of agave can raise insulin, blood sugar, and triglyceride levels.

How manufacturers describe agave production, and what the patents disclose about its processing, make this fluid seem like two different products. According to manufacturers, agave is made by expressing the juice from the core of the plant, filtering the juice to remove the

Foods and Personal Care Products that Contain Corn Derivatives or Byproducts

People with corn allergies, or who want to avoid GMOs, should not use the following. This is only a partial list.

- ◆ *Ascorbic Acid (Vitamin C)*. Found as a nutrient in nutritional supplements. Most of it is derived from corn.
- ◆ *Inositol and Inosinate*. Found as nutrients in Vitamin B supplements. Extracted from the phytic acid naturally present in the hulls of corn.
- ◆ *Lactic Acid*. Used in some skin care products. From fermented corn starch and sometimes potato starch.
- ◆ *Lecithin*. An emulsifier used in supplements and many food products. Usually from soy, sometimes from corn.
- ◆ *Linoleic Acid*. Used in making soaps, emulsifiers, and oils. From cottonseed, soybean, and other vegetable oils.
- ◆ *Lysine*. Essential amino acid, used in many nutritional supplements. Often derived from corn.
- ◆ *Oleic acid*. Often used in cosmetics. From corn and other vegetable oils.
- ◆ *Pectin*. A gel found in puddings, jams, and other foods. Sometimes derived from corn sugars (dextrose or fructose).
- ◆ *Phospholipids*. Fats that are a major component of cell membranes. Put into nutritional supplements and drugs. Often derived from corn oil.
- ◆ *Phytic Acid*. Indigestible anti-nutrient from the hulls of nuts, seeds and grains, including corn. Inositol and inosinate are extracted from phytic acid and are used as nutrients in nutritional supplements.
- ◆ *Stearic Acid*. Found in fake fats, baked goods, and especially as a binder in nutritional supplements. From corn oil (or cottonseed oil, which is heavily sprayed).
- ◆ *Sugars*. Dextrose, fructose, maltose, dextri-maltose, maltodextrin, cyclodextrin, diacetyl, amylose, amylopectin, invert sugar, isomalt, levulose, monosaccharide, lactate condensation, polyamino sugar condensate, confectioner's sugar. Found in all types of packaged foods, in nutritional supplements, and in pharmaceuticals. Often from corn.
- ◆ *Xanthan Gum*. Used as a food thickener. From corn sugar.
- ◆ *Zein*. Used as a coating for vitamin supplements. From corn protein.
- ◆ *Other substances*: baking powders (some), white vinegar, methanol (rubbing alcohol, poisonous if swallowed), citric acid, caramel, excipients (carriers for the actual ingredients you want to impart), pill binders, malt, monoglycerides and diglycerides (fats that emulsify or blend ingredients), sorbitol, vanilla extract, milo starch.

solids, and then breaking down the carbohydrates in the fluid into sugars through the use of either heat or enzymes. Finally, we're told, the filtered juice becomes concentrated into a syrup that's a little thinner than honey, but sweeter. I have not been able to find information on any agave website about how this final "concentration" takes place. However, the patents provide much more information.

In 1998, a patent was awarded by the United States Patent Office for a process that uses enzymes to transform the more complex agave polyfructose extract into pure fructose. The abstract states:

A pulp of milled agave plant heads are liquified during centrifugation and a polyfructose solution is removed and then concentrated to produce a polyfructose concentrate. Small particulates are removed by centrifugation and/or filtration and colloids are removed using termic coagulation techniques to produce a partially purified polyfructose extract substantially free of suspended solids. The polyfructose extract is treated with activated charcoal and cationic and anionic resins to produce a demineralized, partially hydrolyzed polyfructose extract. This partially hydrolyzed polyfructose extract is then hydrolyzed with inulin enzymes to produce a hydrolyzed fructose extract. Concentration of the fructose extract yields a fructose syrup.¹⁰⁴

The numerous patents for producing agave syrup describe several other ways to obtain pure fructose: bathe the nectar in mineral acids; filter the nectar through membranes; soak minced plant parts in a solution of water and inulase (an enzyme) for a little over a day. (Inulase is an inulin enzyme. Could this be the source of the highly publicized inulin in agave?) Or, collect the minerals and other "impurities" with diatomaceous earth, and then eliminate all the debris by spinning the liquid. (Food grade diatomaceous earth is a safe powder of ground-up fossilized one-celled sea creatures called diatoms. It's commonly dusted on animals for insect control, and if it's food grade, it can be taken internally to dispel parasites.)

Even if you're not a trained chemist, when reading the patents several questions arise. What happens to the viability of the minerals and naturally-occurring enzymes when the nectar is heated at 140°F to 160°F (60°C to 71.1°C)? More to the point, if agave nectar is already so desirable—and because many cheap high fructose sweeteners are already on the market—why go to all the trouble to "purify" the colored, thin, strong-tasting nectar into a final product that's basically nothing more than clear liquid fructose? Might the exotic origin of a tropical

plant induce North Americans to pay high prices for what essentially appears to be glorified high fructose syrup?

Significantly, all the patents I have read rate the final liquid product according to its "purity"—in other words, the amount of processing it has undergone! One site states, "A poor quality fructose syrup has a yellow-brownish color and is *tainted* by the taste and smell of the agave plant." [emphasis added]¹⁰⁵

Health writer John Kohler brings in yet another angle: there is no life in this sweetener, despite claims by some manufacturers that their agave is "raw."

Agave syrup was originally used to make tequila. When agave syrup ferments, it literally turns into tequila. The enzymatic activity therefore *must* be stopped so that the syrup will not turn into tequila in your cupboard. . . . If there is no enzymatic activity, it is certainly not a "live" food.¹⁰⁶

No other sweetener (except raw honey and dates) contains enzymes, either. Let's look at another patent.

It is an object of the present invention to produce a high fructose content syrup through the processing of milled agave plant pulp. . . . to produce a high fructose content syrup [while] the aroma and flavor of the agave plant are removed without undue expense. . . . [and] to produce a concentrated fructose syrup which is stable over time and suitable for human consumption in a wide variety of food and beverages. It is yet another object of the present invention to produce a high fructose content syrup in which the color and flavor may be varied by selection of the combination of processing steps and by variation in the length of individual processing steps.¹⁰⁷

Incredibly, some companies call their product agave *nectar*. This is more than misleading, it's an outright lie. Agave is very far removed from the actual plant.

Xylitol and Other Sugar Alcohols

Sugars ending in "tol" belong to the group of *sugar alcohols* (also known as *polyols*) that are actually carbohydrates, whose chemical structure partly resembles both sugar and alcohol. Some of the more-well known "tol" sugars are xylitol, erythritol, sorbitol, maltitol and mannitol.

Polyols are less sweet than sucrose. They have calories, but the body's inability to metabolize them reduces their caloric count to a negligible .02 to 3.0 calories per gram, as compared to 4 calories per gram for other sugars. The incomplete absorption of polyols also accounts for their lower glycemic index than sucrose or other "ose"

sugars—although as we have seen, a food’s low glycemic index doesn’t indicate safety because the body responds biochemically to any sweet taste as though actual sucrose had been ingested. Polyols do raise blood sugar levels. They also promote electrolyte loss and excessive thirst. Furthermore, the malabsorption in the gut caused by “tol” sugars is severe. If enough polyol is ingested, it causes abdominal cramping, diarrhea, and constipation.

All polyols are processed into refined white powder, but their origins are different. Erythritol is found in fruits, fungi and wine; large quantities are usually manufactured by fermenting plant sugars. Sorbitol and mannitol are made from hydrogen and glucose extracted from corn sugar. As for xylitol, its most common source is the sweet soft center of a (genetically engineered) corn cob, although other sources include plums and various kinds of berries. In Europe and increasingly in the US, birch bark is a popular source because consumers want to avoid genetically engineered corn. Regardless of its source, however, xylitol is manufactured in many steps, and could hardly be considered a whole food. These steps include breaking down the raw materials with either acid or through microbial fermentation—some manufacturers may use GE bacteria—and crystallizing the syrup with ethanol. At some point, xylitol is exposed to a nickel-aluminum alloy to manipulate its molecules via a process called *hydrogenation* (discussed earlier in relation to fats). The toxic chemicals are removed with heating.

Sorbitol and mannitol are widely used polyols that are found in the majority of packaged foods. Like common table sugar, they breed bacteria, including the cavity-causing *Streptococcus mutans*. Over 50% of erythritol is absorbed into the blood but is later excreted in the urine; so it’s touted as having a negligible effect on the digestive tract. Erythritol has 60% to 80% the sweetness of sucrose, and almost no calories.

Xylitol is the most popular of sugar alcohols partly because its sweetness level is close to that of table sugar, and largely due to its reputation as a bacterial deterrent. Proponents state that it’s so slippery, it prevents bacteria from adhering to teeth and other surfaces. For this reason, xylitol is used in gum, candy, toothpaste, mouthwash, and even sinus rinses. Despite xylitol’s positive promotion, however, medical studies are mixed. Xylitol does appear to have modest bacteria-fighting properties for some people, but not to the extent reported by its enthusiasts.

How does xylitol affect gut bacteria? Some researchers claim that xylitol’s slippery properties make it safe even for people with *Candida* overgrowth. Other researchers assert that in the colon, xylitol attracts water and pathogens, causing fermentation and the proliferation of *Candida*

and other harmful fungi. They advise against eating xylitol because it may negatively impact the friendly flora. “Prolonged use or large intake,” Bill Misner advises, “may produce the following side effects: weight gain similar to that associated with high/prolonged sucrose intake, diarrhea, tumor growth, and liver/kidney/brain dysfunction.”¹⁰⁸ Nevertheless, xylitol is heavily marketed to people who have diabetes or want to lose weight.

Unlike humans, dogs absorb xylitol in the intestine and suffer extreme digestive upset, including cramping and diarrhea. If a dog eats a large enough amount of xylitol for its body weight, once the sweetener gets into the dog’s bloodstream it can cause liver failure and sudden drops in blood sugar that may result in seizures and even death. Don’t allow your dog near anything containing xylitol.

Of all the polyols, xylitol may have the most redeeming qualities due to its ability to combat pathogens. However, the fact remains that because xylitol can’t be completely digested, it may cause moderate to severe gastrointestinal cramping for most people, especially if eaten in large amounts. If you want to use it as a sweetener, begin with small amounts and monitor its effects. That said, some people who cannot manage other types of sugars appear to tolerate xylitol. As always, let your experience guide you.

Saccharine

Saccharine was the first artificial sweetener on the market. Derived from coal tar, it was ultimately acknowledged as carcinogenic and destructive to the beneficial gut flora. At different times, it has been banned (and sometimes reinstated) in various countries.

Saccharine causes weight gain, despite claims that fake sweeteners are ideal sugar substitutes for people who want to lose weight or who have diabetes. A 2008 article—“A Role for Sweet Taste: Calorie Predictive Relations in Energy Regulation by Rats”¹⁰⁹—described three experiments using saccharine. Rats who ate lower-calorie, artificially sweetened yogurt had more weight gain, more body fat, and a more severely impaired ability to stop eating than rats who ate higher-calorie, glucose-sweetened yogurt. The saccharin-sweetened foods interfered with the rats’ normal biochemistry. In another study using two groups of rats, the first group was given high-calorie sugar drinks and the second group was given drinks infused with saccharin. After ten days, both groups were given a high-calorie, sweet snack. The rats that had consumed artificial sweetener in their drinks ate *three times* more calories than the rats that had not consumed artificial sweeteners. The scientists concluded that artificial sweeteners prevent the body from discerning what its caloric intake actually is, which leads to overeating.

Aspartame

In the first chapter, I discussed how aspartame was created, who kept it on the market, and many of its harmful effects, which include gastrointestinal and respiratory problems, migraines, heart palpitations and seizures. However, aspartame also affects people in ways similar to saccharine. Medical doctor James Bowen explains the biochemical mechanism by which aspartame causes hunger:

The reason aspartame so strikingly stimulates the appetite is it provides over half of its content in a form of a phenylalanine isolate.

The amino acid phenylalanine outcompetes all the others at enzyme sites in the body. This suppresses the formation of dopamine from tyrosine and the formation of serotonin from tryptophan. The serotonin is the neurotransmitter that reports carbohydrate metabolism. When your serotonin levels are not allowed to [rise] as they normally do when you eat carbohydrates, you crave more and more food. The dopamine is the neurotransmitter that lets you feel satisfied, so when you use aspartame you have unsatisfiable cravings. The aspartame also poisons your metabolism so you cannot burn calories.¹¹⁰

This is the first time in human history that we have encountered various substances that look, smell and taste like food—but that fail to deliver what they promise. The body “expects” to receive considerable calories when it encounters an artificial sweetener. When these calories are not forthcoming, the body will seek them out—in the form of calorie-laden food. In 2005, at the American Diabetes Association’s 65th Annual Scientific Sessions, Sharon P. Fowler reported the results of reviewing 25 years of data. For every diet soda people drank each day, there was at least a 65% chance that they would become overweight or obese during the next seven to eight years. (Someone who is 20% over their ideal weight is obese.)

Sucralose

Manufactured under the trade name Splenda®, sucralose has captured a sizeable part of the artificial sweetener market that was formerly filled by aspartame, and to date is in over 4,500 food and beverage products.

Sucralose was discovered in the mid-1970s by a researcher from India who was working with corporate scientists in London. When a colleague asked him to test the chemical, he misunderstood and thought he had been asked to *taste* it. The substance tasted very sweet; in fact, it’s 600 times sweeter than sucrose. The compound was

sucralose; the chemical name was chlorinated hydrogen. What began as a misunderstanding of instructions became the highly lucrative artificial sweetener Splenda®.

Only two human trials on sucralose were published by 2006, but the FDA approved sucralose for human consumption anyway. A mere 36 subjects were used for those two trials, the longest of which lasted only four days—a test for the effects of sucralose on tooth decay. Research revealing up to 40% shrinkage of the thymus gland, and liver and kidney enlargement, wasn’t considered important enough by the FDA to delay or refuse approval.

Although Splenda® is marketed to people who want to balance their blood sugar and lose weight, the product helps neither. Other ingredients in Splenda®, in addition to sucralose, are the simple sugars maltodextrine and dextrose, which are caloric. They’re used as fillers because the amount of sucralose that provides intense sweetness is so minuscule. The sucralose in the mix, however, is much more problematic. As it turns out, it’s absorbed in the fat cells. It reduces beneficial gut bacteria by 50%. And it’s made from chlorine. The “people’s chemist” reports:

When used with carbon, the chlorine atom in sucralose forms a “covalent” bond. . . . Unlike ionic bonds [such as in sodium chloride, or table salt], *covalently bound* chlorines [are highly dangerous to] . . . the human body. They yield insecticides, pesticides, and herbicides. . . . It’s therefore no surprise that the originators of sucralose, chemists Hough and Phadnis, were attempting to design new insecticides when they discovered it! It wasn’t until the young Phadnis accidentally tasted his new “insecticide” that he learned it was sweet. And because sugars are more profitable than insecticides, the whole insecticide idea got canned and a new sweetener called Splenda® got packaged.

To hide its origin, Splenda® pushers assert that sucralose is “made from sugar so it tastes like sugar.” Sucralose is as close to sugar as Windex® [a glass cleaning detergent] is to ocean water.¹¹¹

Dr. Bowen further explains the chemistry of sucralose.

Splenda®/sucralose is simply chlorinated sugar; a chlorocarbon. Common chlorocarbons include carbon tetrachloride, trichlorethylene and methylene chloride, all deadly. Chlorine is nature’s Doberman attack dog, a highly excitable, ferocious atomic element employed as a biocide in bleach, disinfectants, insecticide, poison gas [during World War I] and hydrochloric acid.

Concerning the Use of Products Containing Aspartame (NutraSweet®) by Persons with Diabetes and Hypoglycemia

On August 9, 1994, medical doctor and diabetes specialist H.J. Roberts published a report on the link of aspartame to diabetes and hypoglycemia. The report basically stated that aspartame reacts harmfully with insulin and can actually cause, if not hasten, the onset of diabetes. Dr. Roberts had been a member of the American Diabetes Association for 35 years. Although his report was rejected by the ADA, it was published in a prestigious medical journal. The doctor wrote:

I have treated many patients with diabetes mellitus and hypoglycemia (low blood sugar) in my capacity as a Board-certified internist and an endocrinologist. . . . Since both groups should abstain from sugar, I initially rejoiced that these persons had an acceptable and presumable safe sugar substitute in aspartame. Unfortunately, many patients in my practice, and others seen in consultation, developed serious metabolic, neurologic and other complications that could be specifically attributed to using aspartame products. This was evidenced by:

- ◆ The loss of diabetic control, the intensification of hypoglycemia, the occurrence of presumed insulin reactions (including convulsions) that proved to be aspartame reactions, and the precipitation, aggravation or simulation of diabetic complications (especially impaired vision and neuropathy) while using these products.
- ◆ Dramatic improvement of such features after avoiding aspartame, *and* the prompt predictable recurrence of these problems when the patient resumed aspartame products, knowingly or inadvertently. I have cited many instances of severe complications in patients with diabetes and hypoglycemia caused by the use of aspartame products in my books and scientific articles. . . .

I now advise *all* my patients with diabetes and hypoglycemia to avoid aspartame products. A number of alternatives are available. I regret the failure of other physicians and the American Diabetes Association (ADA) to sound appropriate warnings to patients and consumers based on these repeated findings. . . . Indeed, the ADA (of which I have been a member for over three decades) even refused to print an abstract of adverse reactions I encountered in 58 diabetic patients that was submitted for its 1987 annual meeting. This abstract subsequently appeared in *Clinical Research* (Vol. 3: 489A, 1988).

The AMA, the FDA, and the ADA dogmatically continue to express the unequivocal opinion that aspartame is completely safe for diabetics—and nearly everyone else.

I have discussed some of the reasons aspartame might aggravate diabetes and hypoglycemia in [my] books. The possible mechanisms include the following:

- ◆ Marked changes in appetite and weight as reflected by paradoxical weight gain or severe loss of weight.
- ◆ Excessive insulin secretion and depletion of the insulin reserve.
- ◆ Possible alteration of cellular receptor sites for insulin, with ensuing insulin resistance.
- ◆ Neurotransmitter alterations within the brain and peripheral nerves.
- ◆ The toxicity of each of the three components of aspartame (phenylalanine, aspartic acid, and methylester, which promptly becomes methyl alcohol or methanol), and their multiple breakdown products after exposure to heat or during prolonged storage.

I have asserted in my publications, and in testimony both to Congress and FDA advisory group, that the current wholesale ingestion of aspartame products by over half the adult population constitutes an imminent public health hazard. Yet, this warning continues to be ignored by the medical profession and the FDA.

In addition to patients with diabetes and hypoglycemia, [people at risk] include pregnant women, children, patients with epilepsy, liver [disease], kidney disease and eating disorders, older persons with memory impairment, and the relatives of aspartame reactors, diabetics and patients with phenylketonuria.

Many also correctly ask: Why is aspartame still on the market? Their concern is intensified by the high incidence of brain tumors in animals (known before FDA approval), and the reasonable doubt I have documented about the apparent contributory role of aspartame in human brain tumors.

—H.J. Roberts, MD

letter excerpt: "Concerning the Use of Products Containing Aspartame (NutraSweet®)
by Persons with Diabetes and Hypoglycemia," August 9, 1994

Artificial sweeteners have long been promoted as weight reducing aids. But research from as early as 1986 has shown that these products cause the very diseases they are claimed to prevent! All artificial sweeteners (including saccharine, aspartame, sucralose and neotame) trigger harmful biochemical changes by lowering levels of beneficial gut flora, raising levels of harmful gut flora, boosting appetite, disrupting metabolism, and impairing the body's ability to handle glucose—thus causing obesity.

This data has appeared in many publications, including:

Preventive Medicine, 1986

Physiology and Behavior, 1988 and 1990

Journal of the American Dietetic Association, 1991

International Journal of Obesity and Metabolic Disorders, 2004

Yale Journal of Biology and Medicine, 2010

Appetite, 2012

Trends in Endocrinology and Metabolism, 2013

Nature, September 17, 2014

Sucralose is a molecule of sugar chemically manipulated to surrender three hydroxyl groups (hydrogen + oxygen) and replace them with three chlorine atoms. Natural sugar is a hydrocarbon built around 12 carbon atoms. When turned into Splenda® it becomes a chlorocarbon, in the family of Chlorodane [also called Chlordane, banned by the EPA in 1983 for all uses except termite control], Lindane and DDT.

It is logical to ask why table salt, which also contains chlorine, is safe while Splenda®/sucralose is toxic? Because salt isn't a chlorocarbon. When molecular chemistry binds sodium to chlorine to make salt, carbon isn't included. Sucralose and salt are as different as oil and water.

Unlike sodium chloride, chlorocarbons are never nutritionally compatible . . . and are wholly incompatible with normal human metabolic functioning. . . . Chlorocarbons such as sucralose deliver chlorine directly into our cells through normal metabolism. This [is what] makes them effective insecticides and preservatives.¹¹²

Users have experienced, and researchers have observed, the following effects from ingesting Splenda®:

- ◆ Eye problems: spots in vision, cataracts.
- ◆ Gastrointestinal disorders (bloating, constipation and diarrhea, cramps, nausea, and vomiting).
- ◆ Joint pain, especially in the knees.

- ◆ Neurological problems (anxiety and panic, concentration difficulties, depression, faintness, migraines, seizures).
- ◆ Skin problems (rash, burning, itching, welts, blisters).
- ◆ Enlarged liver and kidneys (which also become calcified).
- ◆ Degenerated adrenals.
- ◆ Shrunken ovaries and thymus.
- ◆ Abnormal decreases in numbers of red blood cells, thyroxin levels, urination levels, and minerals.

You may have wisely given up aspartame, but do you really want to use sucralose instead?

Stevia

Botanically, stevia is part of an entire genus (a plant classification) of about 150 species of herbs and shrubs that are native to South America and Central America. The species *Stevia rebaudiana* Bertoni—known in Paraguay as *Ka'á he'en*, or *sweet leaf*, and simply called “stevia” by Westerners—is a two-foot-high tropical shrub with small leaves. When commercially grown, the plant needs careful attention, as it can be difficult to cultivate seeds that germinate. Much of the commercial stevia crop is obtained from cuttings. Stevia has no calories, has a low glycemic index (for what that's worth), and its extract is up to 300 times sweeter than sucrose. It's also stable when heated to 388°F or 198°C (although some sources say it can tolerate heat up to 392°F or 200°C). For over 1,500 years, various tribes in Paraguay, Brazil and elsewhere have been using different species of the plant not only as a sweetener, but also as a tea to treat heartburn and other conditions, and to balance blood sugar levels.

Stevia became introduced to non-native peoples after scientist Moisés Santiago Bertoni (1857–1929) emigrated from the Italian section of Switzerland, where he was born, and eventually settled in Paraguay. While researching the ethnography and language of the Guaraní Indians (along with his regular studies of botany, zoology, agriculture, biology and meteorology), he was introduced to the plant. In a 1918 edition of a Paraguayan journal, Dr. Bertoni discussed experiments showing that stevia not only was safe, but also that it promoted health. The chemist conducting the experiments, a Paraguayan source points out, was none other than Bertoni's wife, “Eugenia Rebaud Bertoni, with whom he shared the discovery. . . . In the scientific name of the plant, . . . the maiden name of his wife also appears.”¹¹³ In 1931, two French chemists further isolated the glycosides (botanical compounds) that give the herb its sweet taste, and named them *stevioside* and *rebaudioside*.

The results of an extensive Internet literature search, posted at cookingwithstevia.com/petition.html, is accompanied by an explanation of who had written the early articles on stevia, which has a noble history.

Articles published in scientific journals documenting the safe use of stevia [many published in Spanish and Portuguese] . . . were written by botanists, chemists, and food technologists who are experts qualified by training and experience. Over 120 articles about stevia were written prior to 1958 [and some, written over 100 years ago]. Most of the articles are written by scientists or government officials. Only three of the 120 articles referred to were written by or published for the lay public. All were published in journals and books. Several more articles written after 1958 reviewed the use of stevia as food prior to 1958. Over 900 articles have been published on stevia to date.

Some of the articles written about stevia were funded by the United States Government. Letters on file at USDA chronicle the fact that the US government had samples of stevia leaf and intended to investigate it as a crop for the USA as early as 1921. Articles written by American scholars and published in American journals prior to 1958 clearly state stevia leaf has been used in Paraguay for many years and that no adverse effects have ever been reported from the consumption of stevia leaf.¹¹⁴

Outside the US, stevia was becoming widely used in countries that preferred something stable and safe instead of the artificial sweeteners saccharin and cyclamate, which were known to be carcinogenic. Japan, which first produced stevia as a commercial sweetener in 1971, was using 40% of the world's stevia for packaged foods, soda, and table use. Stevia was also becoming popular in other parts of Asia, in Israel, and of course in South America.

In the US, it was a different story. Despite centuries of stevia's safe use, in 1991 the FDA banned it, conducting search and seizure raids against companies that sold it. The reason for the ban, said the FDA, was that stevia was an unsafe food additive. Nevertheless, in 1995 the agency allowed stevia to be sold as a dietary supplement though not as a sweetener. With typical convoluted logic, in 2008 the FDA permitted stevia to be used in processed, packaged foods and drinks as long as companies did not call it a "sweetener" or refer to it as sweet—otherwise, stevia would be regarded as an unsafe food additive under certain legal conditions as defined by the FDA.

The legal status of stevia worldwide keeps changing: It's illegal as a sweetener but legal as a dietary supplement; it's not permitted for humans but can be added to animal feed; etc. Check the laws in your country.

A petition had been submitted to the FDA in 1995 that cited over 900 studies on stevia, none of which showed a lack of safety. Here is just a small sample of research on stevia, from over 60 years ago to the present:

- ◆ In 1954, an article called "Stevioside: A Unique Sweetening Agent," written by a researcher at the Heriot-Watt College in Edinburgh, Scotland, appeared in *Chemistry and Industry*.¹¹⁵
- ◆ In 1986, a study published in the *Brazilian Journal of Medical and Biological Research* described stevia's ability to significantly improve glucose tolerance.¹¹⁶
- ◆ In 1997, three Venezuelan chemists were reported to identify, for the first time, antifungal and antiviral effects in some of stevia's compounds. More recent research has confirmed some of this.^{117, 118, 119, 120}
- ◆ In 2004, researchers in Eastern Europe published an article called "Glucose concentration in the blood of intact and alloxan-treated mice after pretreatment with commercial preparations of *Stevia rebaudiana* (Bertoni)." One group of mice was fed stevia, another group was fed stevioside, and a control group was fed neither. All the mice were then given alloxan to induce diabetes. (You may recall that alloxan is a compound commonly found in white bread; see page 312.) The scientists reported: "Pretreatment with stevia, and to a greater extent with stevioside, protected test animals from the toxic action of alloxan compared with controls."¹²¹
- ◆ Numerous studies show that stevia may not only enhance insulin *secretion*, but it may also enhance insulin *utilization*. In 2005, an article called "Increase of insulin sensitivity by stevioside in fructose-rich chow-fed rats," concluded that stevioside, taken orally, improved insulin sensitivity, and seemed indicated for either people with diabetes, or for those who consumed large amounts of fructose.¹²²
- ◆ The title of a 2013 article in *Journal of Diabetes Complications*, "Antioxidant, anti-diabetic and renal protective properties of *Stevia rebaudiana*," summarizes what the researchers found.¹²³

Some studies have shown that stevia contains natural antioxidants. It doesn't appear to be allergenic and it doesn't cause cavities. The compounds that give stevia its sweet taste pass through the digestive tract

without chemically breaking down, although a small amount of some *metabolites*—byproducts of the original compounds—are absorbed by the gut. The metabolites that are absorbed (such as steviol, from stevioside), are further transformed by the body and excreted in the urine, undetectable in the blood. Stevioside lowers blood glucose levels and blood pressure. Many studies done on animals have shown that stevia has often been found to possess antifungal, antibacterial, and antiviral properties (it prevents viruses from attaching to cell membranes).

Despite these glowing reports, stevia does have issues. Like other sweeteners, its intensely sweet taste without any accompanying calories may trigger insulin, glucose and leptin spikes in susceptible people. Normally, insulin levels rise in response to more glucose in the blood, to push the glucose into the cells. But if there's simply a sweet taste without any glucose present, adrenaline and cortisol levels will rise to mobilize sugar from other sources such as the liver. A constant outpouring of adrenal hormones eventually results in adrenal damage. This would explain why an insulin-resistant, carbohydrate-addicted friend of mine reports getting very hungry every time he eats stevia. So, despite the studies reporting increased insulin utilization, the mere sweet taste of stevia could cause the opposite reaction in some sensitive people.

Perhaps the tolerance (or intolerance) to stevia depends on what form of the herb is being used. Many companies, eager to cash in on this new “miracle sweetener,” are making stevia readily available in liquids and powders of various colors and even flavors! But they aren't telling consumers the truth about how the herb is processed. As with any other food, processing is the key to how the ingredients behave.

The clue to how stevia works can be found only in the whole herb. The plant *is* sweet. But its sweetness is not comparable to that of sucrose, honey, maple sugar, polyols, or molasses. The taste of whole stevia leaf lingers in the mouth longer than most sugars, and the plant has an aftertaste that some describe as bitter and others describe as licorice-like. Stevia's aftertaste is due to the presence of high amounts of stevioside. It's rebaudioside (the other glycoside) that's responsible for the plant's intense sweetness.

Again, a search of the US Patent Office yields valuable clues. Numerous patents exist (one awarded in 1973) not only for the *extraction* of stevia, but also for *processing* methods. Most of the patents are for ways to substantially decrease the levels of bitter stevioside and increase the levels of sweet rebaudioside. These methods range from manual cross-pollination of selected seed-bearing plants to obtain the desirable characteristics, to sophisticated manipulation in the laboratory. Some companies treat

the plant with enzymes to eliminate the stevioside so that only the rebaudioside remains. One patent, issued October 5, 1999, outlines an intricate separation of the various components to yield only the very sweet glycoside rebaudioside-A. This method involves extraction, dissolving the mixed sweet glycosides with methanol solvents, cooling, concentrating, filtering through resin, and spray drying to obtain a crystalline solid “of desired purity.”¹²⁴ Does this “pure” white powder sound like anything else? This kind of rigorous processing is far enough removed from the simple drying and powdering of the plant to require—and receive—a patent.

In the US, stevia is available as a greenish brown powder, greenish brown liquid, white powder, and clear liquid. The green powder is simply the whole dried leaves ground to a powder and the green liquid is a tincture made from the dried green herb. Any other product is a laboratory-synthesized chemical. White stevia products may be regarded as synthetic sweeteners, as they contain only selected portions of the plant that the manufacturer has decided are important. In addition, almost all of the white stevia liquids and powders on the market are bleached, and some contain preservatives.

It's not surprising that the modified extracts are very different from the whole leaf or whole powdered herb. Extracts taste similar to the ubiquitous table sugar, and lack the herb's full range of health-promoting effects. All of a plant's compounds tend to interact with each other in beneficial ways, not all of which are necessarily known.

A stevia company representative once told me that he, too, doubted that a *partial extract* would have the healing properties of the whole plant. He told me how to obtain good stevia and how to use the whole herb optimally. To growers: Harvest it once, before the blossoms open—multiple pickings will yield bitter leaves. The stems and the ribs of leaves, as well as the leaves themselves, contain sweet glycosides, so don't throw out any part of the leaf. To consumers: Stevia can add only a certain amount of sweetness. Use small amounts; more isn't better. Large amounts may taste bitter and not sweet. If you do buy white stevia extract, make sure it's processed with water and not solvents. Removal of coloring should be done with high pressure filtration and not bleaching. You can tell that a stevia extract has been filtered by putting it in some water, which adds back a slight bit of color.

The company rep also told me that stevia appears to even out blood sugar levels by eliminating both the spikes and drops. Health professionals who have monitored clients using his stevia found that it was particularly potent when taken with the herb *Gymnema sylvestre* (also called

shardunika); the two herbs act synergistically to normalize blood sugar levels. Many people, in fact, report that stevia seems to enhance the effects of other herbs, whether used in herbal teas, tinctures, or in cooking and baking.

There's an obvious chemical difference between a whole plant (or its whole extracts) and isolated compounds of that plant. Therefore, the clear extracts and white powders of stevia may not only lack essential components. Long term, they might be creating an imbalance due to the removal of important components. This will be addressed in more detail later, in the **Herbs** section.

Not-So-Sweet Summary

I have devoted considerable space to sweeteners because they have such an enormous impact on our well-being. "In the last twenty years," writes Bill Misner, "we have increased sugar consumption in the USA [from] 26 pounds to 135 [pounds] of sugar per person per year! Prior to . . . 1890 . . . the average consumption was only 5 pounds per person per year! Cardiovascular disease and cancer was virtually unknown in the early 1900s."¹²⁵ The food industry, attempting to bypass the long recognized problems of cavities and blood sugar disruption resulting from excessive sugar consumption, keeps synthesizing new "improved" artificial sweeteners that are far more harmful than concentrated "natural" sweeteners. There is no valid reason to use them, ever.

As for so-called natural sweeteners, most of them are at least a couple of steps removed from their original state because they must be concentrated to accentuate their sweetness, and the heat required to concentrate them changes some of their basic characteristics. Healthy people can generally handle moderate amounts of natural sweeteners. Those whose health issues are not too severe may tolerate them sometimes. But those who are very ill would be wise to avoid them altogether.

If your adrenals, pancreas and liver are functioning properly and you still crave sugar, the craving may be due to certain foods in the diet that are causing brain chemical imbalances: the wrong types of fats, grains (even if properly prepared), or inadequate or excessive amounts of animal protein. You could be lacking essential minerals. Or you might be harboring *Candida albicans* or other pathogens, all of which thrive on sugar. If you find that sweet tastes stimulate a cascade of undesirable biochemical reactions, no matter what you're using, stop eating it! Quelling a sweet tooth can go a long way toward helping you feel better. If you are addicted to sugar and can't quit, please consult a health practitioner with a solid background in biochemistry and nutrition. It may restore your health and even save your life.

Synthetic Chemicals and Fake "Foods"

There's an entire category of fake foods that transforms the *art and science of farming* into the *industry of food*. Among these imposters are imitation "cheese" and texturized vegetable protein (TVP) made from soybean isolates subjected to abnormally high heat; and margarine made from vegetable fats whose molecules are artificially manipulated in ways that don't naturally exist.

Most ingredients that are isolated from their original matrix and radically altered through chemical processes or heat are not only hard to digest, but they have little or no nutritional value. Nutrient-dense food is loaded with flavor, while fake, devitalized ingredients we call "food" are tasteless. It's counterintuitive to deplete the soil with synthetic fertilizers, pesticides and herbicides; raise animals in crowded environments on foods they don't normally eat; raise crops on tired, substandard soil—and then process these "foods" with loads of sugar, salt, and artificial flavorings to make them taste like their more natural counterparts. There is no "need" to enhance food with dangerous chemicals if we grow plants the way they're supposed to be grown and raise animals the way they're supposed to be raised. Real food is delicious. At most, we might want to season our meals with healthy oils, genuine salt, herbs, and spices.

Below are a few ways in which we disguise and alter foods to make them taste better than they really are, and look better than they appeared after they were processed.

Preservatives, Dyes, Fragrances, and Flavorings

So-called natural fragrances and flavors are used in foods as well as cleaners, cosmetics, drugs and skin care items, even if they were never even intended to be edible. Of the over 3,000 additives for foods, half are synthetic flavorings. The majority of flavorings, dyes, and so-called preservatives are manufactured from petroleum. Their contents are legally protected as "trade secrets."

"Trade secrets (as defined by FDA) and the ingredients of flavors and fragrances do not have to be specifically listed," says an *FDA Consumer* article.¹²⁶ Even if the label reads "contains natural flavors," the flavors are legally allowed to be adulterated or comprised entirely of synthetic chemicals. Synthetic fragrances can consist of up to 5,000 hydrocarbons (derived from petroleum or natural gas), and as many as 200 other ingredients, which instead of being listed separately can simply state "fragrance." Petroleum, natural gas, and their derivatives are not compatible with living systems, but food companies try hard to convince the public that fake foods are innovations rather than atrocities.

Among other conditions, these synthetic flavorings and fragrances cause cardiac and immune disorders, allergic reactions, digestive disturbances, and damage to the central nervous system, respiratory tract, liver, and kidneys. They are even causal factors in cancer.

Artificial preservatives tend to be carcinogenic. BHA (butylated hydroxyanisole) and BHT (butylated hydroxytoluene), commonly added to oils to delay deterioration, have also been found to damage the kidneys, liver, and nervous system. Sodium nitrate and nitrite, often added to processed meats to prevent bacterial growth, transform into carcinogenic nitrosamines in the stomach.

They cause neurological damage as well as more gastrointestinal distress. The pink color of nitrate and nitrite treated meats may deceive the consumer into believing that the meat is fresh and wholesome when it's not.

One chemical commonly used as a "flavor enhancer" is monosodium glutamate, abbreviated MSG. A poison that in some ways mimics the action of toxic metals, MSG can cause abnormal blood pressure, muscle and joint pain, gastrointestinal and respiratory difficulties, skin rashes, and blurred vision. But MSG is mainly a neurotoxin. Like aspartame, it impairs the function of the brain and nervous system, leading to various mental, emotional, and motor symptoms that include depression, dizziness, migraines, seizures, loss of balance, insomnia, hyperactivity in children, mental confusion, and anxiety. Sometimes MSG poisoning is misdiagnosed as Alzheimer's or Amyotrophic Lateral Sclerosis (also known as Lou Gehrig's disease).

Glutamate (like aspartame) is especially insidious because it can cross the delicate blood-brain barrier, which is a network of tightly packed, specialized capillaries designed to keep dangerous substances from entering the brain. Furthermore, glutamate can force the blood-brain barrier to *remain open*, which allows other harmful agents to enter.

Although MSG is ubiquitous and is used worldwide, this doesn't mean it's safe. *Excitotoxins: The Taste that Kills*, by neurosurgeon Russell Blaylock, describes in detail how and why MSG causes so much harm, and what people can do to minimize or repair the damage. He also provides the many chemical names and forms of MSG—which is important, as many items are legally allowed to contain MSG without having to be labeled as such. See Insert, "The Truth about MSG," for a guide to the chemical names of MSG and what foods contain it.

In case you thought that MSG was the ultimate triumph in food additives, the article drolly titled "Better Disguises through Chemistry" discusses the invention of yet a newer chemical. This chemical:

tricks the taste buds into sensing sugar or salt even when it is not there. Kraft Foods, Nestlé, Coca-Cola and Campbell Soup are all working with a biotechnology company called Senomyx®, which has developed several chemicals, most of which do not have any flavor of their own but instead work by activating or blocking receptors in the mouth that are responsible for taste. They can enhance or replicate the taste of sugar, salt and monosodium glutamate, or MSG, in foods. . . .

While food safety experts applaud efforts to reduce salt, MSG and sugar, they expressed concerns about the new chemicals, saying that more testing needed to be done before these were sold in food. [Nonetheless] since Senomyx®'s flavor compounds will be used in small proportions

(less than one part per million), the company is able to bypass the lengthy FDA approval process required to get food additives on the market.¹²⁷

McDonald's Head Launches National Diabetes Week

Bill Glasson, the president of the Australian Medical Association, has described inviting the head of McDonald's to launch National Diabetes Week as like "inviting Dracula to the opening of a blood bank."

—News in Brief
British Medical Journal, July 17, 2004

In obtaining *GRAS* (Generally Recognized As Safe) status for this new additive, Senomyx® tested the chemical for less than 18 months. A main study used to determine the chemical's safety was a 3-month trial using rats. The executive director of the Center for Science in the Public Interest (this was before the organization was co-opted by Big Pharma) expressed strong reservations about this protocol: "A 3-month study is completely inadequate. What you want is at least a 2-year study on several species of animals." Unlike other chemical compounds that are listed individually as ingredients, Senomyx® is "lumped into a broad category—'artificial flavors'—already found on most packaged food labels."¹²⁸ The company that created this new chemical was awarded at least five patents.

Packaged foods almost always contain dangerous preservatives to extend their shelf life. There's no reason to use these chemicals to preserve food when more biocompatible substances can safely and effectively be used instead. Just three are Vitamin E tocopherols, ascorbic acid (commonly called Vitamin C), and rosemary essential oil. Fermenting and drying, practiced for countless centuries, are other options.

The Truth About MSG

Conditions and Diseases

What is the flavoring that makes you crave more of whatever it is that you're eating? It's not the food—it's the chemical *monosodium glutamate*, or *MSG*.

For decades worldwide, MSG has been used by scientists to create obese mice and rats used for studies on diet and diabetes. Rats and mice are not naturally obese, so when they're born, scientists have to inject them with MSG—which triples the amount of insulin the pancreas creates—to make the animals fat. The "MSG-treated rats," as the scientists call them, are not the only ones to become obese. So do humans, because MSG appears in almost every manufactured food.

All protein is comprised of amino acids. Glutamic acid, which is an amino acid, is present in protein in its *bound* state. The minute amounts of free glutamic acid in some unadulterated proteins (such as seaweeds) are not enough to induce a reaction. However, monosodium glutamate (MSG) is actually *free glutamic acid* that is released in foods through processing. When large amounts of glutamic acid (along with other manufacturing contaminants) are released from processed protein, people eating the food may react negatively to even tiny amounts, either immediately after ingestion or up to 48 hours later. About 30% of the United States population experiences adverse reactions when fed MSG. In their Registry of Toxic Effects of Chemical Substances, The Centers for Disease Control call monosodium glutamate a *mutagen* and a *reproductive effector*.

MSG causes problems in many areas.

- ◆ Endocrine dysfunction: obesity, reproductive disorders, and diabetes.
- ◆ Heart problems: angina, cardiac arrhythmia, high or low blood pressure, and rapid heartbeat.
- ◆ Gastrointestinal disorders: diarrhea, nausea and vomiting, stomach cramps, irritable bowel, rectal bleeding, and bloating.
- ◆ Muscles and joint problems: aches and pains, chills, shakes, burning, tightness, and numbness.
- ◆ Neurological disorders: depression, rage, anxiety, panic and mood swings; migraines; disorientation; dizziness; hyperactivity, behavioral problems, autism, and ADD in children; Alzheimer's; paralysis, numbness, tingling, sciatica and seizures; brain lesions.
- ◆ Respiratory disorders: asthma, chest pain and tightness, runny nose, and sneezing.
- ◆ Eye problems: blurry vision, difficulty focusing, augmentation of glaucoma, macular degeneration.
- ◆ Skin conditions: hives, rash, and flushing.
- ◆ Lethargy, sleepiness, and insomnia.
- ◆ Urinary tract and genital problems: frequent bladder pain, swelling of prostate or vagina, irregular menstrual spotting, and frequent urination.
- ◆ Extreme mouth dryness, mouth lesions, and swelling of face and tongue.

Where MSG is Always Present

Despite the harm caused by MSG, the FDA requires a "monosodium glutamate" label *only* for products whose ingredients are a 99% pure combination of glutamic acid and sodium. *Usually, foods that contain MSG do not have to be labeled as such.* Be aware that manufacturers are legally allowed to hide MSG under many different names. The following *always* contain MSG:

- ◆ Monosodium Glutamate (MSG), Monopotassium Glutamate (MPG).
- ◆ Glutamate, Glutamic Acid.
- ◆ Calcium Caseinate, Sodium Caseinate.
- ◆ Yeast, Yeast Extract, Yeast Nutrient, Yeast Food, Autolyzed Yeast.
- ◆ Corn Syrup Solids, Modified Corn Starch.
- ◆ Accent® and Aginomoto® (two brand names for the pure white crystals).
- ◆ AuxiGro®, a plant "growth enhancer" that is sprayed on growing crops (since approval from the US Environmental Protection Agency in 1998).
- ◆ Also present when the label says *disodium guanylate* or *disodium inosinate*. These food additives work synergistically with MSG, so are unlikely to be used if MSG is missing.

MSG is released from protein when the protein undergoes a process called *protein hydrolysis* (or simply *hydrolysis*), via either fermentation, chemicals or enzymes. The source of hydrolyzed protein could be anything. Although hydrolyzed proteins always contain MSG, the labels usually indicate a type of protein:

- ◆ Pea Protein (instead of simply "Pea")
- ◆ Corn Protein (instead of simply "Corn")
- ◆ Soy Protein (instead of simply "Soy")
- ◆ Wheat Protein (instead of simply "Wheat")

Note, pea protein powder is free of MSG if the *starch only* of the pea is treated—separated from the protein (customarily with enzymes and water), leaving the proteins intact. On the other hand, pea and other proteins always contain processed free glutamic acid if the *proteins themselves* have been at least partially hydrolyzed—split into their component amino acids.

The following products also *always* indicate the presence of MSG:

- ◆ Textured Protein, Textured Vegetable Protein (TVP), Vegetable Protein, Hydrolyzed Vegetable Protein, Hydrolyzed Plant Protein, Plant Protein Extract, Hydrolyzed Protein, Hydrolyzed Oat Flour—in short, *any protein that is hydrolyzed*.

Where MSG is Frequently Present

During processing, MSG can be created in certain food additives. So, the following *frequently* contain MSG:

- ◆ Carrageenan (either contains processed free glutamic acid or interacts with milk proteins in dairy products to produce MSG). Carrageenan is a thickening and binding agent that can cause inflammation, gastrointestinal disorders, and tumor growth.
- ◆ Maltodextrin, Barley Malt, Malt Extract, Malt Flavoring.
- ◆ Flavorings, so-called Natural Flavorings or Flavors (Chicken, Beef, Pork, etc.).
- ◆ Vegetable Broth, Hydrolyzed Vegetable Broth, Bouillon, Stock.
- ◆ Gelatin.
- ◆ Pectin.
- ◆ Seasoning, Spices (sometimes it's just spices, however—you need to ask the manufacturer).
- ◆ Soy Protein, Soy Protein Isolate / Concentrate.
- ◆ Soy Sauce (especially the cheap kind that hasn't been fermented properly for at least two years).
- ◆ Cheeses made with enzymes instead of rennet. Enzymes can create processed free glutamic acid because the proteins in the cheese are breaking down too rapidly.
- ◆ Whey Protein, Whey Protein Concentrate, Whey Protein Isolate. (Whey Protein from reputable companies should not contain MSG.)
- ◆ Protease Enzymes. (Protease supplements from reputable companies should not contain MSG.)

MSG could be in:

- ◆ Pre-packaged and frozen meals.
- ◆ Processed meats.
- ◆ Canned fish.
- ◆ Soups and stews.
- ◆ Chips, breads, crackers, and other snack foods.
- ◆ Gravy, bullion and stock.
- ◆ Salad dressing.
- ◆ Fast foods.
- ◆ Soaps, shampoos, hair conditioners, and cosmetics. (The MSG is hidden in ingredients that include the words "hydrolyzed" and "amino acids.")

- ◆ Dairy products: ice cream, frozen yogurt, low-fat milk. Many low-fat milks are made from powdered milk. Powdered milk includes free glutamic acid because of how it's processed. A dairy fortifies its milk with powdered milk to make the product legally acceptable. A product that's *ultra pasteurized* uses higher heat than normal pasteurization. This breaks down even more milk protein, causing such high levels of processed free glutamic acid that MSG-sensitive individuals experience adverse reactions.
- ◆ Binders and fillers for prescription medications, over-the-counter medicines and nutritional supplements; and fluids administered intravenously in hospitals. (According to the manufacturer, Varivax–Merck Varicella Virus Live vaccine contains L-monosodium glutamate and hydrolyzed gelatin, both of which contain processed free glutamic acid.)

MSG is Used Purposely

Manufacturers have known for five decades that MSG's effect on the brain makes it addicting. They purposely add MSG to food to make people buy and eat more of their products. The FDA claims that MSG is safe to eat in any amount—despite hundreds of scientific studies with titles like "The monosodium glutamate (MSG) obese rat as a model for the study of exercise in obesity"; "Obesity induced by neonatal monosodium glutamate treatment in spontaneously hypertensive rats: an animal model of multiple risk factors"; and "Hypothalamic lesion induced by injection of monosodium glutamate in suckling period and subsequent development of obesity."

MSG can cross the placenta and the blood brain barrier of a developing fetus during pregnancy, and portions of the blood brain barrier in adults. This is partly what makes it so dangerous. Another danger of MSG is that it upsets the amino acid balance in the body. The amino acid transport system is designed to convey small amounts of many amino acids at one time. But when abnormally large amounts of one or just a few amino acids flood the system, they displace other amino acids. We have more than enough glutamic acid in our diets. If there isn't enough dietary protein eaten to create "free glutamic acid," the body can create it from other amino acids.

The glutamic acid that's naturally present in intact, unprocessed proteins is beneficial—and nourishes us. The glutamic acid that's artificially created from a manufacturing process contains some of the same molecules that exist in antibiotics and in the cell walls of bacteria—and is carcinogenic. MSG is not a valuable nutrient or even a benign flavoring. It's a poison.

—adapted from Russell L. Blaylock
Excitotoxins: The Taste that Kills, 1997
 and truthinlabeling.org

Fabricated Fats

Earlier in this chapter I discussed the need for Omega 3 fats in the diet. Preferred sources are grass fed beef and lamb, mercury-free fish, coconut oil, raw butter from grass fed cows, and perhaps fish or krill oil supplements.

Omega 9 fats, also beneficial, are in sunflower seeds, almonds, and olive oil. Omega 6 fats are in fresh, soaked nuts and seeds; but the Omega 6s that are in the many vegetable and seed oils on the market are mostly spoiled. The high heat used in the processing of almost every vegetable and seed oil turns those fats into rancid *trans* fats (short for “transformed” fats), whose rancidity is disguised with deodorizing and more processing.

Aside from the high heat and caustic chemicals, vegetable oils are ruined by a process called *hydrogenation*. The partial hydrogenation of plant oils, developed in the early 1900s, yields shortening and margarine—artificial products that are used worldwide. Hydrogenation involves the artificial manipulation of an oil’s molecular structure so that its inherent shape is changed. The substance becomes *saturated* with atoms of hydrogen gas; hence, the terms *saturated fats* and *hydrogenated fats*. Hydrogenation destroys any essential fatty acids that might have been present in the original oils.

The shape of a fat molecule indicates the compatibility (or incompatibility) of an oil product with living tissue. Molecules of healthy fats have a natural curved shape (giving them the name *cis*-fats), which helps build insulation on the cell membranes that protects the cells from chemical and bacterial invasion. Molecules of fake fats, on the other hand, are manipulated into being unnaturally straight. Your digestive system does not recognize these fake fats as food, and can’t break down or assimilate them. When the fake fat is incorporated into your own cellular structure, your cell membranes become stiffer—*partially hydrogenated, much like the material that was ingested*. Your now-malformed cell membranes also literally become perforated with holes, which allows chemical toxins, biological waste and other unwanted materials into the cells. Cellular metabolism becomes disturbed, unable to perform its usual processes. Simply put, the distortions in the molecules of fabricated fats cause your own body to become distorted, too, in both structure and function.

The goal of partial or total hydrogenation is to raise the burning temperature of the fats. This makes them more desirable for baking. It also extends their shelf life. Fake fats are unlikely to spoil, grow mold, or attract flies and rats. Because their excessive processing removes the nutrients, nothing can live on them, including you.

Fake fats create *free radicals*, atoms with too few electrons in the outer shell to maintain stability. The atoms

seek to add more electrons to their outer shell—either by combining with another atom (and thereby producing a more stable compound), or by knocking off an electron from another highly reactive atom. The atom that loses its electron in turn becomes a free radical, seeking to stabilize itself by finding an electron to steal from yet another atom. This starts a chain reaction of atoms that bombard the system like billiard balls. On a chemical level, this produces poisonous waste products.

One way to gain consumer acceptance of synthesized fats is to call them “healthy,” and state their origins in nuts or seeds. But even though an oil might be derived from even an organic seed, the end product is vastly different from the material of origin.

Most commercial baked goods and fast foods, which used to contain butter and lard, now contain *trans* fats. Even items from the health food store can be harmful. There are entire sections of dangerous oils, as well as foods made with such oils, falsely touted as healthy. Due to a loophole in the labeling laws of the United States, packaged foods marked “no *trans* fats” are actually allowed to contain a certain percentage of *trans* fats. This gives the false impression that the government is doing its job of protecting the consumer, while the labels are useless. If you want to avoid *trans* fats (not to mention GMOs and other fake foods and harmful ingredients), you should avoid packaged foods entirely.

It is not easy to get permission to tour an oil-pressing facility. Most oil companies do not like the processes to be too well known. . . . If more people knew about how oils are made, what they contain, and what has been taken out, more people would complain, and fewer would buy these oils. . . .

Fully processed oils are the equivalent of refined (white) sugars, and can therefore be called “white” oils. Like sugar, they are nutrient-deficient sources of calories, but in addition, they contain toxins that are not present in sugar [sucrose].

There is great resistance in the industry to make the changes necessary to produce natural, unrefined oils. . . . Changes would make large presses obsolete. Fresh edible oils require a higher level of care.

The care required to make fresh, unheated, EFA [essential fatty acid]-rich oils, with vitamins and minerals kept intact so our body can metabolize them properly, is not the present mandate of the mega oil industry; nor is a distribution system that gets fresh oils to consumers before they deteriorate from exposure to light and air high on their present list of priorities.

—Udo Erasmus
Fats that Heal, Fats that Kill, 1993

The Solution to Crime

Forget tougher punishments and hiring more police. The solution to crime and violence is on your dinner plate.

At first glance, there seems nothing special about the students at this high school in Appleton, Wisconsin. They appear calm, interact comfortably with one another, and are focused on their schoolwork. And yet a couple of years ago, there was a police officer patrolling the halls at this school for developmentally challenged students. Many of the students were troublemakers, there was a lot of fighting with teachers and some of the kids carried weapons. Today [a school counselor] describes the students as "calm and well-behaved." Fights and offensive behavior are extremely rare and the police officer is no longer needed. What happened?

A glance through the halls at Appleton Central Alternative provides the answer. The vending machines have been replaced by water coolers. The lunchroom took hamburgers and French fries off the menu, making room for fresh vegetables and fruits, whole-grain bread and a salad bar.

Is that all? Yes. . . . [The principal] is still surprised when she speaks of the "astonishing" changes at the school since she decided to drastically alter the offering of food and drinks eight years ago: "I don't have the vandalism. I don't have the litter. I don't have the need for high security."

It is tempting to dismiss what happened at Appleton Central Alternative as the wild fantasies of health-food and vitamin-supplement fanatics. And yet it is not such a radical idea that food can affect the way our brains work—and thus our behavior. The brain is an active machine: It only accounts for 2% of our body weight, but uses a whopping 20% of our energy. In order to generate that energy, we need a broad range of nutrients—vitamins, minerals and unsaturated fatty acids—that we get from nutritious meals. The question is: What are the consequences when we increasingly shovel junk food into our bodies? Do examples like the high school in Wisconsin point to a direct connection between nutrition and behavior? Is it simply coincidence that the increase in aggression, crime and social incivility in Western society has paralleled a spectacular change in our diet? Could there be a link between the two?

[A criminal-justice professor] has proven that reducing the sugar and fat intake in our daily diets leads to higher IQs and better grades in school. [After] a change in meals served at 803 schools in low-income neighborhoods in New York City, the number of students passing final exams rose from 11% below the national average to 5% above. [One study] showed that the number of violations of house rules fell by 37% when vending machines were removed and canned food in the cafeteria was replaced by fresh alternatives. [The professor] summarizes his findings this way: "Having a bad diet right now is a better predictor of future violence than past violent behavior."

In a prison for men between the ages of 18 and 21 in England's Buckinghamshire, 231 volunteers were divided into two groups: One was given nutrition supplements along with their meals that contained our approximate daily needs for vitamins, minerals and fatty acids; the other group got placebos. Neither the prisoners, nor the guards, nor the researchers at the prison knew who took fake supplements and who got the real thing. The prisoners given supplements for four consecutive months committed an average of 26% fewer violations compared to the preceding period. Those given placebos showed no marked change in behaviour. For serious breaches of conduct, particularly the use of violence, the number of violations decreased 37% for the men given nutrition supplements, while the placebo group showed no change. As a randomized, double-blind, placebo-controlled study, [the designer of the experiment, University of Oxford physiologist Bernard] Gesch emerges with convincing scientific proof that poor nutrition plays a role in triggering aggressive behavior.

After Gesch published his findings in 2002 in *The British Journal of Psychiatry*, the study was picked up by European and American media. The newspaper headlines were clear: "Healthy eating can cut crime"; "Eat right or become a criminal"; "Youth crime linked to consumption of junk food"; "Fighting crime one bite at a time." Then the media went deafeningly silent. Perhaps that's because . . . you can't get a patent on natural nutrients like vitamins and minerals. Far more effort goes into pharmaceutical, rather than dietary, solutions.

"Aggression is not only determined by nutrition," [Ap Zaalberg, working on nutrition with the Dutch Ministry of Justice,] states. "Background and drug use, for example, also play a role. Yet I increasingly see the introduction of vitamins and minerals as a very rational approach. . . ."

The British charity institution chaired by Gesch . . . estimates it would cost 3.5 million pounds (5.3 million euros or 6.4 million US dollars) to provide supplements to all the prisoners in Great Britain. That is only a fraction of the current prison budget of 2 billion pounds (3 billion euros or 3.6 billion US dollars). . . .

"Most criminal-justice systems assume that criminal behaviour is entirely a matter of free will," Gesch says. "But how exactly can you exercise free will without involving your brain? How exactly can the brain function without an adequate nutrient supply? Nutrition may actually be one of the most straightforward factors to change antisocial behaviour. And we know that it's not only highly effective, it's also cheap and humane. . . . We need to know more about the composition of the right nutrients. It could be the recipe for peace."

—excerpted from Marco Visscher, "You Do What You Eat"
Ode, September 8, 2005

Food Conditioners

Food conditioner is a strange term. The need to “condition” food implies that the ingredient is not in an edible *condition* unless it’s radically altered. But in that case, is it really food? And if it’s not really food, should we be eating it?

One example of conditioning is the transformation of whole wheat into white bread. After the bran and germ are stripped from the wheat berry—leaving nothing but the starchy, non-nutritive white endosperm kernel—commercial flour mills use different chemical bleaches. The bleaches may include chlorine, benzoyl peroxide, potassium bromate, azodicarbonamide or nitrous oxide, mixed with various chemical salts to make the flour look even whiter (and presumably more attractive). The result is a substance called *alloxan*, produced when these chemicals combine with whatever proteins are still left in the flour.

Unlike the fairly benign bleaching agents used to whiten flour years ago, alloxan is a deadly poison. It’s even used to produce diabetes in research rats because it creates high levels of free radicals in the beta cells of the pancreas. Once the pancreas is damaged, it can’t secrete enough insulin, the body cannot properly metabolize carbohydrates, and glucose levels in the bloodstream rise, resulting in diabetes and Syndrome X. Alloxan is often used in conjunction with the artificial sweetener aspartame. Once aspartame damages the mitochondria (the fuel-burning units of the cells), it’s easier for the free radicals produced by the alloxan to cause even more DNA damage.

Thickeners and Emulsifiers

To provide a thick, creamy consistency to puddings, sauces and dairy products, the food industry routinely uses thickeners and emulsifiers, which *emulsify* or blend ingredients that don’t ordinarily mix well. Most of these additives are harmful.

Carrageenan, a gel, is commonly used in many foods. However, unlike Irish moss—a seaweed with thickening properties—carrageenan is a seaweed *extract*, refined with alkalis (caustic metal salts). This is why carrageenan triggers an inflammatory immune response. It can cause not only skin rashes, intestinal lesions and colitis, but also cancer. In fact, researchers deliberately use carrageenan to cause inflammation in animals when they test the anti-inflammatory properties of drugs. Another food thickener, maltodextrin, thins the protective barrier of mucus in the intestinal tract while simultaneously feeding a strain of *E. coli*. Two other emulsifiers, polysorbate 80 and carboxymethylcellulose (often found in items such as mayonnaise and ice cream), also erode the mucus.

Safe, natural (and more costly) thickeners include powdered tapioca, arrowroot, and kudzu root.

The Discoveries of Weston A. Price

To those knowledgeable about healthy food and native diets, Weston A. Price is a hero. He played a key role in helping to bring real food back into the diets of people not only in North America, but abroad. A prominent Canadian-born dentist (later resettled in the US), Price was the research head for the National Dental Association, with publication credits and a thriving practice. However, he was unhappy that dental problems were escalating and dentists weren’t able to help. So in the 1930s, he journeyed around the world with his wife for nearly a decade to learn what was so rapidly contributing to tooth decay in the modern “civilized” world. As 95% of American children today have dental deformities (which usually indicate other health problems as well), this journey was prescient.

Reasoning that the answer would be found if they studied healthy, rather than unhealthy, people, the Prices visited the Inuit (Eskimos) in Alaska; the Maori of New Zealand; the Australian Aborigines; the Malay tribes on islands north of Australia; Indians in north, west and central Canada; Indians in Florida and the western US; Melanesians and Polynesians of the South Sea Islands; isolated Gaelic folk living in the Islands of the Outer Hebrides off the coast of Scotland; Indians in the jungles of Peru; isolated Swiss in the Loetschental Valley enclosed by three high mountain ranges; and various African tribes living according to their ancient customs in what were then Kenya, Uganda, Rwanda, Belgian Congo and Ethiopia. Sometimes the Prices would have to spend weeks with the natives to gain their confidence and trust, before Weston could ask them questions about their health and diet through an interpreter.

Price’s fascinating book of his findings, *Nutrition and Physical Degeneration*, reads like a combination travelogue, anthropological treatise, restaurant review, and very readable text on medicine, dentistry and nutrition. The documentary photographs of dentally healthy and unhealthy people add great power to the text. “After spending several years approaching this problem [of what causes tooth decay] by both clinical and laboratory research methods,” he explained, “I interpreted the accumulating evidence as strongly indicating the absence of some essential factors from our modern program, rather than the presence of injurious factors. This immediately indicated the need for obtaining controls”—people who were not afflicted with the pathological condition he was studying. He continued:

To accomplish this it became necessary to locate immune groups which were found readily as isolated remnants of primitive racial stocks in different parts of the world. [Price used the word “primitive” not derogatorily, but to mean “original,

Vegetarianism and Pregnancy

Eating meat can elicit strong feelings, as evidenced by a heated, ongoing debate between people who don't eat animal flesh and those who do. The first group includes vegans, vegetarians, and lacto-ovo vegetarians (those who eat eggs and milk products, but not the animals that produce them). The second group ranges from those who eat only fish and/or poultry but no red meat, to total carnivores.

Weston Price's research is compelling because every healthy culture he visited included some meat in their diet. But a society's good health also depended on eating real food and not junk. Quite a number of modern vegetarians subsist on junk food, part of the Standard American Diet or SAD. (Many also eat purified wheat gluten. Popular as a meat substitute because it's chewy, it wreaks havoc on the body.)

Studies show that pregnant women who eat an unbalanced diet high in sugars and empty carbohydrates—typical of many vegetarian diets—give birth to children with birth defects, lowered immunity, and structural abnormalities. But even if a vegan mother doesn't eat junk, she will still have trouble achieving a nutritionally balanced diet. Vitamins A and D (which help us absorb the minerals in food), Vitamin B6, and the minerals calcium, magnesium, iron, zinc and copper, are much more easily absorbed from animal foods than plant foods. Nutritionists have found that the majority of vegetarians and vegans suffer from a shortage of Vitamin B12, which is found only in meat and other animal products. And we now know that many cases of Alzheimer's—whose early signs include fatigue, tingling in the hands and feet, sleep disorders, and a tendency toward irrational anger—may actually be a Vitamin B12 deficiency. Compared to modern diets, traditional diets contain four times the amount of calcium and other minerals, and ten times the amount of fat-soluble vitamins A, D, E and K.

My own observations parallel Price's research. I know a vegetarian man and woman who never wanted to hear about the dangers of soy, let alone the benefits of eating meat. The woman's first pregnancy ended in a miscarriage and her first living child suffered from severe allergies. In children born to SAD parents, I see consistently poor teeth: crooked, with spaces in between. Or they're lodged high in the gums, growing at irregular angles—definitely not like the pearly whites of Price's beautiful natives.

Nevertheless, some people insist how much better they feel when avoiding meat. They also believe that their vegetarian or vegan children are healthy. Only time will tell. But in the meantime, is it fair to the health of a future child to be so rigid about diet?

simple, basic," to signify connection to one's roots.] A critical examination of these groups revealed a high immunity to many of our serious afflictions [afflictions] so long as they were sufficiently isolated from our modern civilization and living in accordance with the nutritional programs which were directed by the accumulated wisdom of the group. In every instance where individuals of the same racial stocks who had lost this isolation and who had adopted the foods and food habits of our modern civilization were examined, there was an early loss of the high immunity characteristics of the isolated group. These studies have included a chemical analysis of foods of the isolated groups and also of the displacing foods of our modern civilization.¹²⁹

Price's illustrated book is over 500 pages, condensed from his meticulous field notes and his huge collection of photographs of people with good and bad teeth. The book discusses not only dietary habits, but also lifestyle, social customs, attitudes, and birthing practices. The natives who still followed their traditional diets, based on locally-grown foods in season, enjoyed excellent general physical health as well as healthy, well-formed teeth.

"Traditional" diet depended on what was native to the region. The Inuit's diet consisted of about 80% fat, along with the meat they hunted. The Scottish people of the Outer Hebrides lived on plenty of seafood with oat cakes (oats were one of the few crops that could grow on that perpetually cloudy, damp island). The South Sea Islanders enjoyed coconut and a wide variety of other tropical fruits, along with roasted wild pig and crab. And the Swiss ate lots of cheese and butter with their sourdough bread. Interestingly, fewer than 10% of the traditional cultures Dr. Price studied consumed dairy on a regular basis.

Natives always ate the organs, glands, and fat of an animal along with the muscle meat. Eggs of all kinds were also eaten. Significantly, the milk, cheese and butter from the animals they raised were eaten either raw or (more often) fermented. Some of the natives ate great quantities of meat; others ate much less. But every culture—even those who subsisted primarily on vegetables or on large amounts of grains and legumes—ate some form of animal protein, even if it consisted of insects (10%, in one case). In fact, certain worms high in fat were considered a great delicacy in certain parts of Africa. (In modern Zimbabwe, these worms are still popular at markets because they are the only protein that many people can afford.) Price, who apparently preferred not having to eat animals, was disappointed that during his travels he did not discover even one vegan group.

In every case, the onset of degenerative disease was caused by the introduction of processed adulterated food—largely white flour and white sugar—from white civilization, which became available to the natives when new roads were built or more foreign ships visited an island. Significantly, the children of women who deviated from their traditional diets all had narrow dental arches and misaligned teeth, and were much more susceptible to diseases such as tuberculosis and arthritis. If the women resumed their native diets, the babies they subsequently bore were healthy. The children of well-fed parents didn't cry much (if at all), and they were remarkably independent. Those on traditional diets were content and even-tempered, even in oppressive climates.

Dr. Price found great wisdom in how the natives prepared their food. It either was eaten raw, was minimally cooked, was subjected to extended cooking (often after being soaked), or was fermented raw. All of these methods made the food much more assimilable.

Today, we know that raw fruits and vegetables contain enzymes and especially high concentrations of vitamins and minerals. Raw or low-heat dehydrated meats also contain enzymes. Parasites sometimes present in raw meat are less inclined to grow in a healthy body; but Price found that antiparasitic condiments were often eaten with the raw meats to help prevent or decrease harmful effects. For example, wasabi (a root comparable to horseradish) is a traditional Japanese staple with sushi or raw fish. The soaking of seeds and nuts, and in some cases the removal of the skins, neutralizes their enzyme inhibitors. The soaking of grains and beans (usually overnight), and subsequent slow cooking, help break down the indigestible fibers and complex sugars. Soaking and sprouting (and fermenting, about which Price did not make extensive comments) also neutralize the anti-nutrients. One anti-nutrient is the phytic acid (the plant's natural preservative) in the outer layer which, if not transformed, combines with minerals in the intestinal tract and blocks their absorption.

One of Price's most important discoveries was the presence of a fat-soluble activator in fish eggs, shellfish, lard, cod liver oil, and milk and organ meats from grass fed animals. This activator, which we now know to be Vitamin K2, plays an essential role in the body's absorption and utilization of many minerals, and helps prevent dental caries (cavities) and insulin resistance.

It's not surprising that native populations all over the world were much healthier before the introduction of commercialized, refined Western non-foods. The rule for healthy eating is simple: "Whole foods." The farther away food is from its origin, the less nutrition it provides. At some point on the processing continuum, food becomes either non-food or even anti-food. Anti-food—comparable

to cigarette smoke and drugs, which the body was never designed to ingest—burdens the system with synthetic substances that lack life energy (electromagnetic charge), and forces the body to deplete its nutrient stores as it attempts to eliminate the poisons.

My favorite cookbook—*Nourishing Traditions: The Cookbook that Challenges Politically Correct Nutrition and the Diet Dictocrats*, by Sally Fallon and Mary Enig—is founded on the discoveries of Weston Price and other nutritionist giants. Like Weston Price's own work, this is a multi-dimensional book, full of outstanding recipes as well as interesting and essential scientific information that explains why these recipes are included. Many types of food preparation that help optimal assimilation are explained in detail, including slow cooking, fermentation, soaking, and sprouting. Cooking meat and bones for at least six hours diffuses, into the water, the calcium and other nutrients from the marrow, gelatin, bones and connective tissue—thus providing a mineral-rich, nutritious broth. Fermentation, from the infusion of beneficial bacteria, makes food more assimilable due to the pre-digestion process that begins outside the body. Dairy is best eaten either raw or fermented. Small amounts of fermented vegetables (such as cabbage), eaten with each meal, add valuable enzymes and friendly flora that aid digestion. Soaking grains removes some of the indigestible compounds, and sprouting adds life force.

Nourishing Traditions is indispensable for those interested in learning how to prepare foods in ways that have sustained human populations for millennia.

Animals are smarter than humans when it comes to feeding their children

Humans are the only species on the planet who actually go out of their way to feed their children crap. All other animals instinctively seek out the best nutrition they can find. . . . But humans? Most of them "reward" their children with junk food, sugary sodas, candy laced with petrochemical coloring additives and refined sugars that promote obesity and diabetes. Most parents don't even make any real effort to follow nutritional discipline at home—they simply buy whatever their children saw advertised on television, caving in to the all-powerful "nag factor" that junk food companies fully exploit when marketing to children.

As a result, *human children are the least healthy youngsters of any species on the planet.* Baby dolphins are healthier than baby humans, for example, and they are born with healthier nervous systems, fewer toxins and a lot more common sense.

—Mike Adams, News Target, April 6, 2007

Food Preparation and Preservation

Basics of Cooking

Cooking is actually quite simple. It changes the structure of food via hot water, hot fat, dry hot air, or moist hot air. When foods are heated, the molecules move faster and heat up too, and there's a corresponding chemical change in the proteins, fats, and carbohydrates in the food.

With air heating, food is placed in an open space (barbecue pit, uncovered pot) or enclosed space (clay oven, pit covered with rocks or leaves, covered pot). With water heating, water either completely surrounds the food (boiling), covers the bottom of the pan (poaching), or covers the bottom of the pan while the food rests on mesh away from the water (steaming). With fat heating, a small amount of oil is used (sautéing), a larger amount is used (frying), or oil completely covers the food (deep frying).

This is not a cookbook, so I will focus on approaches that either negatively impact health or strongly favor it: two methods of cooking (frying and microwaving); some food preservation techniques; the special category of raw food preparation; and finally, cookware.

Frying

Most oils degrade when heated. The only edible fats and oils that can be heated to a degree, without suffering molecular damage or nutrient loss, are virgin olive oil, butter (or its clarified form, ghee), and coconut oil. Virgin olive oil can withstand only moderate heat; butter a bit more; ghee even more; and coconut oil, fairly high temperatures for both frying and baking. You can tell that the oil is overheating when it starts to smoke. It makes no sense to use unheated oils in an effort to avoid trans fats, but then ruin them with super high heat to fry food.

Frying, and especially deep frying, damage food by creating toxic compounds. These compounds impair cell respiration and inhibit immune function, thus encouraging disease conditions. Oils chemist Udo Erasmus bluntly states: "Oil kept at 215°C (419°F) for 15 minutes or more consistently produces atherosclerosis when fed to experimental animals."¹³⁰ The damage comes from:

rapid oxidation and other chemical changes that take place when oils are subjected to high temperature in the presence of light and oxygen. First, antioxidants in the oil (Vitamin E and carotene) are used up. Then . . . free radicals [are produced] that start chain reactions in oil molecules. Under these conditions, many chemical changes take place in oils.¹³¹

The oxidation that takes place in fried (heated) oils causes some of the oil molecules to become fragmented,

and some molecules to join that had not been joined previously.

More than oils suffer during frying. *Foods* fried in these oils also undergo destructive molecular changes that toxify the body. *Acrylamides*, created when oils heat food at very high temperatures, make fried foods delicious and crisp. They also cause cancer and nerve damage.

How likely is the chance of being toxified by acrylamides? One Canadian author writes:

Both the Food and Drug Administration (FDA) in the US and Health Canada [similar to the FDA] have evidence that carbohydrate based products heated to 350°F [about 177°C] or more produce . . . acrylamides. . . . A bag of potato chips can have 500 times the amount of acrylamides allowed in drinking water. A single chip may contain as much acrylamides as allowed by Health Canada in an 8-ounce glass of drinking water.¹³²

As Erasmus points out, foods that have turned brown are burned, their nutrients destroyed. "Proteins turn into carcinogenic acrolein. Starches and sugars are browned (caramelized) through molecular destruction. Fats and oils are turned to smoke by destruction of fatty acids and glycerol."¹³³ Frying's not a great option, especially for the very sick, but Erasmus does offer an alternative that helps protect the essential fatty acids (and our health). It requires more care, but is worth the effort.

Traditional Chinese cooks first put water in their wok, not oil (North American Chinese cooks have largely abandoned this wise practice). Water keeps the temperature down to 100°C (212°F), a non-destructive temperature. In European gourmet cooking, vegetables [are] placed in the frying pan *before* oil is added to protect oil from overheating and oxidation. The food tastes less burned, retains more of its natural flavors and nutrients and, most important, supports our health better.¹³⁴

Heavily fried foods can be tasty; so if you eat them, balance the meal with antioxidant foods, such as raw juices, salads, green smoothies, and perhaps berries. Also take extra Vitamin C and drink plenty of water.

Meats that are barbecued or charbroiled cause problems similar to frying. Those tasty charcoaled carcinogenic substances are called *heterocyclic amines*, or HCAs. If you like barbecued meats, marinate them first in apple cider vinegar and one or more of the following herbs. Or simply rub a few onto the meat: oregano, thyme, rosemary, basil, cumin, garlic. These healthful additions will hinder the formation of HCAs—and taste great.

Microwaving

Microwaving has become a popular method of cooking food, especially for those who love gadgets and fast food. To cook food, microwave ovens emit a 2.45 gigahertz (2,450,000,000 Hz) signal. While such food is convenient and fast, the price we pay is high. We can distinguish between the effects of microwave radiation on the water in the food (and thus on the food itself); on the body, once the food is ingested; and on the body by just the ovens, independent of the ingestion of food. I will discuss each in turn.

The ability of microwaves to cook food is based on its effects on water, which exists in all plants and animals (and our food) and is very sensitive to radiation. You may recall from earlier in this chapter that one end of a water molecule has a positive charge and the other end has a negative charge. When subjected to microwave radiation, the water molecules in the food reverse in polarity: the positive ends become negative and the negative ends become positive. This back and forth movement happens continually, and at high speeds—up to one hundred billion times a second! The molecules are jostled so much that the repeated motion creates friction, which emits the heat that cooks the food. The disruption of the water molecules is so intense that they are literally torn apart and become structurally deformed. Chemists even have a name for this phenomenon: *structural isomerism*.

What happens to microwave oven-cooked food as a result of this rapid, chaotic polarity switching? The food becomes radically altered. “In most research [conducted by the Russians],” William Kopp writes, “the foods were exposed to microwave propagation at an energy potential of 100 kilowatts per cubic centimeter per second, to the point considered acceptable for sanitary, normal ingestion.”¹³⁵ Under these “acceptable” conditions, the naturally occurring chemical bonds between various elements in the food are shattered, causing the molecules to fragment. Chemists have a name for this phenomenon as well: *radiolysis*, the molecular disintegration resulting from radiation. This causes the formation of new *radiolytic compounds*, involved in the following:

- ◆ Naturally occurring amino acids (which comprise protein) in milk and grains transform into carcinogenic poisons that damage the nervous system and kidneys.
- ◆ Microwaved meats contain d-Nitrosodienthanolamines, a class of well-known carcinogens.
- ◆ Even brief exposures of raw, cooked or frozen vegetables to microwaves enhance the production of toxic alkaloids, many of which become carcinogenic. (Belladonna, morphine, and strychnine are alkaloids.)

- ◆ There’s a 60% to 90% decrease in the availability of nutrients, including Vitamins A, C, E and B-complex, essential minerals, choline, inositol, and methionine.

Microwaves transform more than our food—they influence all body systems. Once you understand how microwaves affect water, you can grasp how living cells are affected by the microwaved foods. A practitioner writes:

The cells are actually broken, thereby neutralizing the electrical potentials, the very life of the cells, between the outer and inner side of the cell membranes. Impaired cells become easy prey for viruses, fungi and other microorganisms. The natural repair mechanisms are suppressed and cells are forced to adapt to a state of energy emergency; they switch from aerobic to anaerobic respiration [in other words, the behavior of cancer cells]. Instead of water and carbon dioxide, the cell poisons, hydrogen peroxide and carbon monoxide, are produced.¹³⁶

Here is a partial list of the damage that people can suffer from eating microwaved foods:

- ◆ Abnormal increase in leukocytes, white blood cells whose elevated numbers usually signify pathogenic effects such as poisoning and cell damage.
- ◆ Nervous system damage: electrical functioning is impeded and messages cannot be transmitted properly.
- ◆ Cardiovascular disorders, including the blockage of coronary arteries and an increase of heart attacks.
- ◆ A disruption in the electrical potential of the cellular membranes, which impedes the efficiency of nutrients that enter the cells and wastes that leave.
- ◆ A higher-than-normal percentage of cancerous cells in the stomach and intestines, resulting in digestive disorders, impaired excretory function, and a statistically significant increase in stomach cancer.
- ◆ Decrease in levels of hemoglobin, the iron-containing pigment in red blood cells that binds to oxygen and carries the oxygen from the lungs to all the tissues.
- ◆ Decrease in levels of lymphocytes (white blood cells).
- ◆ Hormonal imbalances.
- ◆ Significant loss of vital energy.
- ◆ Significant levels of disruption in alpha, delta, and theta brain waves, resulting in psychological disorders including memory loss, inability to concentrate, diminished intellectual function, and interrupted sleep.

Microwaved foods contain “hot spots” that can make food explode and cause burns when you touch it. The toxic chemicals in packaging can leach into the food. Most important, the radiation emitted by even a *correctly working* microwave oven disrupts the electrical fields of those nearby (microwaves travel easily through inside walls). Newer research, published in a 2010 *European Journal of Oncology* monograph by Dr. Magda Havas and colleagues,¹³⁷ shows that radiation of 2.4 GHz from a cordless phone base—the same frequency used by wireless routers and baby monitors as well as microwave ovens—disrupts the heart and autonomic nervous system. The levels tested were *below* federal safety guidelines. Other research in the same publication shows that virtually every function of the body is disrupted: amino acid formation, brain cognition, cell differentiation and enzymatic activity, collagen synthesis, and immune response.

Microwaving can have immediate fatal consequences too. In 1991, a woman named Norma Levitt entered an Oklahoma hospital for hip surgery and received a blood transfusion. A nurse warmed the blood for the transfusion in a microwave oven, and in an hour and a half Levitt was dead. We may reasonably conclude that

it wasn't the surgery or anesthesia that killed her, but the deformed, lifeless blood cells in the transfused blood.

The story of how microwave ovens came to be accepted, even eagerly embraced by the American public, is similar to how harmful drugs have reached the marketplace: via suppression of negative evidence. As reported in “Microwave Tragedy,” in 1991, Dr. Hans Ulrich Hertel of the Swiss Federal Institute of Technology, and Dr. Bernard H. Blanc of the University Institute for Biochemistry, published the results of a thorough clinical examination of microwaved nutrients and their effects on the blood and human physiology. Among their findings was an alarming increase of leukocytes (white blood cells), which indicates abnormal conditions such as poisoning or cell membrane damage—and which can lead to cancer. At the time, Hertel was employed by a major international food company. It fired him “for questioning certain processing procedures *that denatured the food.*” [emphasis added]¹³⁸ In 1992, the Swiss Association of Dealers for Electro-apparatuses for Households and Industry pressured a Swiss court to issue a gag order against the doctors. In March 1993, Dr. Hertel was prohibited:

from declaring that food prepared in the microwave oven shall be dangerous to health and lead to changes in the blood of consumers, giving reference to pathologic troubles as also indicative for the beginning of a cancerous process. The defendant shall be prohibited from repeating such a statement in publications and in public talks by punishment laid down in the law.¹³⁹

The legal decision was finally reversed in 1998 by the European Court of Human Rights. It ruled that Hertel's rights had been violated and Switzerland must pay him compensation. However, by then millions were indoctrinated. Today, many Americans naively believe that microwave ovens are safe.

Not all countries allow microwave cooking. Research on the biological effects of microwaves was conducted as early as 1942 at Humboldt University in Berlin, Germany. The Russians—who since 1957 extensively studied the effects of microwave ovens at the Institute of Radio Technology—initially made their use illegal, and issued a warning about the biological and environmental damage resulting from appliances that use this frequency. (Unfortunately, the ban was later lifted.) Other Eastern European countries also set limits for microwave oven usage.

Simply put, because microwaved food is chemically and molecularly altered, its nutrients are lost and harmful compounds are created. The body, exposed to foreign and dangerous substances and further deprived of the

Pottenger's Cats

Between 1932 and 1942, physician Francis Pottenger Jr. conducted a study on 900 cats to see the effects of a diet consisting of raw vs. cooked food. In his book, *Pottenger's Cats: A Study in Nutrition*, he described the diet. All cats received cod liver oil. Some cats were fed both raw milk and raw meat. Others ate pasturized and/or processed (condensed) milk and cooked meat. Still others were given a combination of cooked and raw in the same meal—either raw meat and pasteurized/processed milk, or cooked meat and raw milk.

Only the cats on a completely raw diet thrived. Through multiple generations, they had excellent health and strong immune function, were of normal size, had friendly temperaments, and reproduced easily. Cats fed even a partially cooked diet experienced miserable health. Those that didn't die after a year had offspring that could not reproduce beyond the third generation.

Even the cat excrement, when tested as fertilizer, mirrored the health of the cats themselves. Plants would not grow when given waste from cats that had eaten any cooked food at all.

Pottenger won many awards in his lifetime, was appointed to numerous prestigious posts, and published over fifty articles on nutrition and chronic disease. No one has yet tried to duplicate his research.

nutrients it needs, becomes sick. No wonder cancer rates are especially high in people who eat microwaved food!

Not all technology is bad. As Hertel himself once said, “We, the scientists, carry the main responsibility for the present unacceptable conditions. It is therefore our job to correct the situation and bring the remedy to the world. I am striving to bring [humankind] and techniques back into harmony with nature. We can have wonderful technologies without violating nature.”¹⁴⁰

(Incidentally, the sun emits microwave radiation. However, unlike the excessively high-powered, *alternating* current from microwave ovens (which changes the polarity of the water molecule), the sun’s microwave radiation is low-powered, pulsed, *direct* current that does *not* create heat through friction. See Chapter 1 and Appendix C for details.)

Even the best organic food is ruined by microwaving. If you eat in a restaurant, make sure that your food is not being prepared or heated in a microwave oven.

Freezing

In general, frozen foods have very good nutritional value. Commercially frozen foods are cooled as soon as they’re picked (produce) or killed (fish and meats). Frozen foods should not contain preservatives or ingredients to preserve color, as these chemicals are unnecessary and toxic.

Fermenting

No one knows how fermentation began. The best guess is that some of the most common foods we enjoy today evolved serendipitously. An often-told story involves milk. Carried across the desert in animal skins, the milk absorbed the bacteria in the skins and curdled, resulting in yogurt and cheese. Every country in the world has its own fermented specialties. Kvass originated in Russia. Umeboshi plum paste, kim chee and miso were produced in Asia. Sauerkraut was popular in Germany. The range of fermented foods is practically unlimited because meats, milk, vegetables, fruits, and grains can be fermented.

The fermentation process always involves bacteria, and sometimes yeasts. It is the *enzymes* from these infinitesimal microorganisms that break down substances, both inside and outside the body. In his excellent book on how to make fermented foods, Sandor Katz writes that not all bacteria are our enemies.

Microbial cultures are essential to life’s processes. . . . We humans are in a symbiotic relationship with these single-cell life-forms. . . . [They] digest food into nutrients our bodies can absorb, protect us from potentially dangerous organisms, and teach our immune systems how to function. . . . They keep the soil fertile and comprise an

indispensable part of the cycle of life. . . . Certain microorganisms can manifest extraordinary culinary transformations. . . . The process of fermentation makes food more digestible and nutritious. Live, unpasteurized, fermented foods also carry beneficial bacteria directly into our digestive systems, where they exist symbiotically, breaking down food and aiding digestion.¹⁴¹

Vinegar, a popular fermented food, can be beneficial or damaging depending on how it’s made. Naturally brewed vinegar is created by fermenting grains or fruits to produce alcohol, and then letting the liquid sit in the presence of oxygen until it’s transformed into vinegar. White distilled vinegar contains acetic acid. Wine vinegar contains mostly acetic acid, and sometimes tartaric acid as well. The acetic acid in white distilled and wine vinegars destroys red blood cells and interferes with digestion, impeding the assimilation of food. Acetic acid also contributes to cirrhosis (hardening) of the liver, and duodenal and intestinal ulcers.

Raw, unpasteurized apple cider vinegar contains malic acid. The malic acid in apple cider vinegar helps provide energy to muscles, assists in the coagulation of blood, and contributes to healthy blood vessels. Apple cider vinegar is high in potassium, which is used by the body for nerve and muscle function, the regulation of blood pressure, and blood sugar level balance. It seems clear that vinegar made with anything other than *raw* apple cider is a poison. Vinegar should never be heated. If you don’t have a source of apple cider vinegar, get some unpasteurized (unheated) apple cider and allow it to sit for several weeks.

Despite the benefits of fermented foods, people with *Candida* infections may have a cross-sensitivity to many types of yeasts and fungus, and thus become more ill when they eat fermented foods. As usual, pay attention to how your body responds.

Canning

According to an FDA estimate, 17% of the US diet comes from commercially canned food. Although canned goods are convenient, most of them (except for meats) are not very nutritious. Also, unless the cans are lined with safe enamel—which very few manufacturers use—their coating makes the food outright dangerous.

Two chemicals, bisphenol-A (BPA) and bisphenol-S (BPS), are used to line metal cans. Both disrupt the body in ways that are similar to the effects of synthetic (*pseudo*, or false) estrogen. Pseudo-estrogens from plastic are similar enough to the real hormone that they attach to the body’s estrogen receptor sites, displacing the body’s own naturally produced estrogen. But they are also foreign enough to cause great damage. They impair hormone

function, causing early puberty, lowered sperm counts, and infertility. They damage the nervous system and brain, impairing learning and causing hyperactivity. They increase the formation of fat, causing obesity. And they impair immune function and cause cancer. Damage to cells can occur at concentrations as low as 2 ppb (parts per billion). According to the Centers for Disease Control, levels of 2 ppb were found in 95% of the people examined.

A study overseen by the Environmental Working Group found BPA in over 50% of all name-brand canned goods tested. This includes canned infant formula. Many of the cans contained BPA levels 200 times higher than the government's safe level for industrial chemicals. One to three servings of some canned foods (including chicken soup, ravioli and infant formula) are sufficient to cause harm. Bisphenol compounds are also widely used to make some types of hard plastic bottles, which should be avoided as well.

Home canning, using glass jars, is safe and practical (if time-consuming).

Drying

Long ago, our ancestors discovered that drying meats, vegetables and fruits in the sun was a convenient way to both preserve food and carry it on journeys. Today, tropical items like coffee beans and cacao are dried in the sun, but especially in technologically advanced countries, foods are dried in electric dehydrators. Although dried foods are portable and lightweight, their low water content may make them too rich and concentrated. Therefore, some people prefer to soak dried foods in water before eating them, or at least drink plenty of water while eating.

Raw

Once you start investigating healthy ways to eat, you'll eventually find advocates of eating all foods uncooked—completely raw. Raw food proponents say that their food is alive, and there's some sound science that supports this. First, the enzymes in raw foods are intact. *Enzymes*, the chemical catalysts of all life processes, are naturally present in all living organisms: humans, animals, plants. When foods are eaten raw, the enzymes they contain help our bodies digest them.

Biochemists have long known that excessive heat destroys enzymes. Opinions vary about what cooking temperatures deactivate the enzymes in food, but the average estimate is 110°F (43.3°C) or higher. This is a huge issue for raw foodists, because many of them dry their foods to concentrate the flavor. Further complicating the temperature estimate is the varied water content of foods: they dry at different rates, which means that they require different temperatures and different drying times. The ideal drying temperature is also unreliable because the

amount of heat cited for optimal drying is usually that of the air, which at the start of the drying process is usually much higher than the temperature of the food. We know only that nutrients and enzymes are preserved in foods that are dried slowly, and at low enough temperatures.

Enzyme-wise, not all foods are created equal. The most abundant sources of food enzymes are raw meats, fish and dairy; raw honey; pineapple and unripe papaya (which contain bromelain and papain, respectively); other fruits including grapes, figs, avocados, dates, bananas, kiwi and mangos; extra virgin olive oil; sprouted grains, beans and legumes; wine and unpasteurized beer; and fermented dairy products. Fruits and vegetables that are pickled or fermented when raw generally have more enzymes too.

Enzymes are only part of the reason that raw foods are alive. Raw foods also contain negative hydrogen (H⁻) ions instead of positive hydrogen (H⁺) ions (as discussed in the **Water** section of this chapter). Albert Szent-Gyorgyi, the famous Nobel laureate who discovered Vitamin C, showed that an electron cannot move in a living system unless it's accompanied by hydrogen. The H⁻ ions in raw foods, which fundamentally indicate vitality, are completely absent from cooked food. H⁺ ions acidify the system and speed the aging process, while H⁻ ions alkalize the system and delay aging. Negative hydrogen ions also support metabolic functions, facilitate the elimination of wastes, and escort absorbable minerals into the tissues. This explains why people feel heavier in their digestive tracts when they eat cooked rather than raw foods.

Scientist Patrick Flanagan, who studied the work of Szent-Gyorgyi, understood that the "fountains of youth" throughout history are based in truth. The long-lived Hunzas, who dwell in an isolated valley in Pakistan, drink glacial water that's not only rich in minerals, but also contains an unusual form of spherical silica. This silica imparts H⁻ instead of H⁺ ions to the water. After finding high H⁻ ion levels in the healing waters of Lourdes in France, in Baden-Baden in Germany, and in Pagosa Springs in Colorado (US), Flanagan invented a silica supplement that duplicates the action of these waters. Negative hydrogen, he wrote, "is the carrier of all electrons in all chemical reactions. . . . Our bodies desperately need it."¹⁴²

The third, very important reason that raw foods are alive is their biophoton content. *Biophotons* are the smallest known units of light. With wavelengths measuring between 380 and 780 nanometers, their luminescence is much too low to be seen by the naked eye. But their existence was proven in 1974 by the scientist Fritz-Albert Popp. Biophotons are stored in and emitted by living things: the sun, humans, animals, plants. All cellular DNA uses biophotons to communicate information that controls complex bodily processes and confers energy and vitality.

How to Feed Your Dog or Cat

If you think that you're doing your beloved animal companion a favor by buying only the "best" commercial chow—dried pellets called *kibble*—this may change your mind. Most kibble contains some or all of the following: hormones, antibiotics, artificial dyes and preservatives, sugar, and harmful chemicals such as MSG. The FDA allows pet food to contain up to 15% of its total weight in corn syrup. "Vegetable protein" on a label can legally consist not only of corn and soybean meal, but also rice husks, peanut shells, and other waste materials from the milling of grain. Even if the kibble contains *whole* grains, this is not a natural part of a pet's diet. High-cellulose "vegetable protein" can only be assimilated by cows, sheep, and other grazing animals whose digestive tracts are designed to break it down (and even then, they should be eating grass rather than grain). If the label reads "animal byproducts," "meat or bone meal," or "meat digest," your dog or cat might be ingesting fur, hair, feathers, leather, nails, or hooves. Although technically these can be considered the food's "protein content"—and the labeling is legal—this waste offers no nutrition. Your pet cannot digest or assimilate it.

In most states, it's legal for the diseased parts of chickens, cows and other slaughterhouse animals that failed inspection for human consumption to become food for pets after being "cleaned" with toxic petrochemical solvents. The Food and Drug Administration, California Veterinary Medical Association, American Veterinary Medical Association and other groups, admit that when animals in shelters and pounds are euthanized, their carcasses are often sent to pet "food" processing plants. Some of the euthanized pets contain sodium pentobarbital (a drug used to kill them), which does not get broken down in processing. Also, the animals might be wearing their flea collars when added to the mix. If this sounds too unbelievable, don't take my word for it. In the last two decades, exposés of pet food have appeared in newspapers, holistic magazines, veterinary journals, and even the pet food industry's own magazines.

Even presumably wholesome products, which boast the absence of artificial preservatives and glutinous grain, contain some sticky carbohydrate—such as potato or corn starch—to bind the materials together. These carbs are not natural to a dog's or cat's diet.

The dietary guidelines in this chapter that you use for yourself can be adapted for your domesticated animal friends. Advocates of a healthy diet for dogs (and cats)—following the advice of Australian veterinarian Ian Billinghurst, who discovered that his dogs' health problems disappeared when he fed them natural, raw food meals similar to those of their ancestors—call it the BARF diet. BARF is an acronym

for "Bio Active Raw Food" or, more popularly, "Bones And Raw Food." The BARF diet recognizes that animals in the wild—lions, tigers and cheetahs (relatives of the house cat), and wolves, jackals and coyotes (relatives of the dog)—are carnivorous. Members of the dog and cat families eat their prey raw—plenty of muscle, organ meats, and bones—after they kill it; and they don't cook their food before eating.

Like their cousins in the wild, domesticated dogs and cats need lots of protein. They thrive on raw meat, with raw egg and occasionally raw milk (especially for cats). Tripe—the first three stomachs of ruminants, along with the partly digested, fermented plant material—provides valuable probiotics. It smells awful to humans, but most dogs love it. In lieu of tripe, some owners feed ground up (and sometimes fermented) vegetables with the raw meat. Raw bones containing marrow, cartilage and gristle should be given to dogs at least once a week, along with enough meat to cushion the hard bone. Unlike unsafe cooked bones, raw ones don't splinter, they help clean the animals' teeth, and they satisfy the natural instinct to gnaw.

Cats are noted for requiring high amounts of the amino acid taurine. While other mammals are able to synthesize taurine from other amino acids in the body, cats cannot; so taurine must be supplied by their diet. Never feed your pets sugar—or chocolate, which contains theobromine that can kill them in high enough amounts.

A raw diet requires ample stomach levels of hydrochloric acid, which kills bacteria in raw meat. Animals heavily damaged by poor diet and vaccines often fare better initially with cooked food. They can thrive on raw if you add a little bit at a time to their usual food, eventually making their entire meal raw. (Enzymes and probiotics supplements help digestion.) Sick animals may require homemade cooked food for brief periods.

Ironically, until very recently "pet" food did not exist. Dogs ate table scraps and raw bones, and were much healthier than they are today. Our pets are the innocent victims of an improperly regulated, billion-dollar-a-year industry's unscrupulous business practices. Think how you would feel if you ate the same devitalized, canned or dried dinner every single day—let alone material that was contaminated with other diseased animals, foreign chemicals and miscellaneous indigestible substances. Wouldn't you be sick, too? No wonder so many dogs and cats suffer from flatulence, allergies, itchy skin, dull fur, vomiting, heart disease, dental problems, kidney and liver failure, and cancer!

If you take the time to love your pets in this way, you will save lots of money on veterinarian bills—and your animal friends will be healthier and happier.

We know that DNA vibrates several billion times a second, expanding and contracting like a coil. Studies have shown that each time a contraction occurs, one single biophoton (light particle) is produced, conveying information to other biophotons in the same body, and to biophotons in other bodies. All of the biophotons that are emitted surround the body in a highly structured field.

“The more light a food is able to store,” writes osteopath Joseph Mercola, “the more nutritious it is. Naturally grown fresh vegetables, for example, and sun-ripened fruits, are rich in light energy. The capacity to store biophotons is a measure of the quality of your food.”¹⁴³ Most raw foodists say they feel not only much lighter physically as a result of eating raw, but also more spiritually connected. This is undoubtedly a direct result of the light quotient that their bodies are receiving.

Flexible raw foodists may eat fermented dairy and pastured eggs, but the most vocal proponents of a raw diet tend to be strict vegans. The diet focuses on uncooked and fermented fruits and vegetables, and soaked or sprouted grains, nuts and seeds. However, the metabolic needs and relatively sedentary lifestyle of many people make it difficult for them to handle high-carbohydrate nuts and grains without adding at least some animal protein to their diets. A lesser known raw foods protocol is the so-called Paleolithic or Primal diet. Beef is either eaten raw, or slowly dehydrated into jerky at minimal heat to preserve the enzymes. Fish is “cured” with lemon juice and salt—the equivalent of slow cooking without heat, which does not destroy the enzymes. Perhaps people would want to eat more raw foods if they were encouraged to substitute meat and fish (even if cooked) for some of the recommended grains, nuts and seeds. As for the dangerous parasites in some raw meats, freezing is an acceptable alternative to heating. Freezing beef—and even fish and pork, especially susceptible to parasites—for three weeks, and then marinating these meats in an acidic medium such as raw apple cider vinegar or citrus juice, kills the parasites.

There are many reasons for eating a raw (and vegan) diet. For some, this type of eating makes the difference between remaining ill and becoming well. However, a raw vegan diet is not for everyone. As Annemarie Colbin points out, most people who live in cold climates need the heat that cooked food provides. And those who perform heavy manual labor, work with computers, or spend lots of time under fluorescent lights, need the slow steady energy from cooked foods as opposed to the quick, but short-lived, bursts of high energy generated by raw foods.

Cooking does have its place. Many foods are relatively unusable unless they are altered in some way. For instance, even with rigorous chewing, humans cannot digest the

tough cellulose of many vegetables, such as kale, potatoes and carrots. That is why many vegetables require at least a minimal amount of steaming. Cooking allows the vitamins and other nutrients in many vegetables to be assimilated. It’s worth losing enzymes and some nutrients through cooking if it makes the difference between eating a vegetable and not eating it at all. Vegetables can always be juiced to obtain the valuable nutrients.

The potent energy in raw foods is probably the most useful for recovering the strength and vitality that are lost due to illness. “Mono” diets are chiefly designed to manage extreme health issues. Once a condition is eliminated, continuing what was originally a corrective diet may create another imbalance or even illness. You don’t have to adhere to a 100% raw diet in order to benefit from these vital, living foods. Consider eating at least some living foods every day as part of your overall nutritional program. One of my favorite raw diet books, with tasty recipes and lots of thought-provoking information, is *Hooked on Raw*, by Rhio.

Cookware

With all this focus on food, it’s easy to forget about the pots we use. But cookware can make a huge difference to our health.

Aluminum used to be one of the most common materials used for cookware. But it’s a toxic metal, poisonous to the body in any form. Tomatoes, lemons, vinegar, and other acidic foods will leach aluminum from a pot. High levels of aluminum are found in the brains of people with Alzheimer’s and other diseases. Keep in mind that the use of aluminum foil can produce the same effects.

Aluminum pots and pans are less common now, but so-called non-stick Teflon® cookware has become popular. This coating, created by the DuPont company, contains PFOA, short for *perfluorooctanoic acid*. According to a statement by the United States Environmental Protection Agency,

PFOA . . . [sometimes called “C8,” is] a synthetic . . . chemical that does not occur naturally in the environment. Companies use PFOA to make fluoropolymers, substances with special properties that have thousands of important manufacturing and industrial applications. Consumer products made with fluoropolymers include non-stick cookware.¹⁴⁴

Another fluoropolymer is PTFE, short for *polytetrafluoroethylene* (also spelled *polytetrafluorethylene*). In discussions about Teflon®, the acronyms “PTFE” and “PFOA” are sometimes used interchangeably.

Fluoropolymer resins were developed in 1938 by scientists working for DuPont, environmental consultant Roberta C. Barbalace reports:

This new polymer seemed almost indestructible and its qualities promised to make it profitable if they could just find the right market. It was patented in 1944 and used first to line equipment used in the enrichment process of U-235 uranium hexafluoride gas for the Manhattan Project [the building of atomic bombs by the United States] during WW II. DuPont reserved its entire output for government use for the duration of the war with about two-thirds of it being used for the Manhattan Project.

When the war was over, DuPont had to find a new use for its polymer. In 1953, Teflon® was marketed to commercial users. . . . Before long . . . most of the industrialized world was cooking with Teflon®-lined pans. Teflon® products have been made from a variety of polymers.¹⁴⁵

DuPont's polymers were used in semiconductors, wire insulation and gaskets; and as coatings for clothes, carpeting, furniture and non-stick cookware—because, as the manufacturer states, they resist high temperatures, chemical reactions, corrosion, and cracking due to stress.

Non-stick coating on cookware is a really good idea. The problem is, the coating begins to break down and emit fumes when it's exposed to even moderate heat. Reviews of health records of workers exposed to the chemical, as well as animal studies, show numerous health risks associated with PFOA. Among them are:

- ◆ Chills and headache.
- ◆ Fever between 100° and 104°F (about 37.8° to 40°C).
- ◆ Prostate toxicity, tumors and cancer.
- ◆ Toxicity and impairment of the brain, kidneys, liver and thymus.
- ◆ Respiratory problems, including difficulty breathing, tightness of chest, coughing, sore throat, fluid in the lungs, and death by suffocation.
- ◆ Changes in size of the pituitary gland (which controls metabolism, growth and reproduction) *at any amounts*.
- ◆ Birth defects and death.

The dangers of Teflon® became well publicized when a 1995 article by Joanie Doss appeared in *The Alaska Club Bird Newsletter* and was then circulated on the Internet. Doss, a professional bird trainer, began researching the

compound after her beloved parrots died in her kitchen while she was cooking in non-stick pots. Compared to humans, birds are tiny and have extra-sensitive respiratory tracts; so they react much sooner to toxic air. “In 1951,” Doss wrote, “the first case of human suffering from tetrafluoroethylene problems was reported. It produces flu like symptoms in humans. The tetrafluoroethylene lingers long after the product has been removed.”¹⁴⁶

At what temperature does Teflon® break down? DuPont's own website states that the coating withstands up to about 500°F or 260°C (so why are consumers advised to use only low or moderate heat?), and that the coating starts decomposing only if temperatures reach above 600°F (316°C)—at which point, it can emit fumes that cause a flu-like condition (but it's temporary!).

The Environmental Working Group commissioned its own studies and reached very different conclusions.

A generic non-stick frying pan preheated on a conventional, electric stovetop burner reached 736°F [391°C] in three minutes and 20 seconds, with temperatures still rising when the tests were terminated. A Teflon® pan reached 721°F [383°C] in just five minutes under the same test conditions, as measured by a commercially available infrared thermometer. DuPont studies show that the Teflon® offgases toxic particulates at 446°F [230°C]. At 680°F [360°C] Teflon® pans release at least six toxic gases, including two carcinogens, two global pollutants, and MFA [monofluoroacetic acid], a chemical lethal to humans at low doses. At temperatures that DuPont scientists claim are reached on stovetop drip pans (1,000°F) [537.8°C], non-stick coatings break down to a chemical warfare agent known as PFIB [perfluoroisobutene], and a chemical analog of the WW II nerve gas phosgene.¹⁴⁷

Telling cooks to use Teflon® cookware according to ridiculously strict and impractical guidelines indicates a failure to take responsibility for making unsafe pans. Not many cooks will apply a thermometer to the bottom of their pans to measure the temperature. Even if the pans are used within the recommended temperature limits, as soon as the cookware becomes scratched its coating peels and disperses into food. Teflon® is the most widely known brand of non-stick cookware, but there are many others including Duracote™, Excalibur®, Fluron®, Greblon®, Silverstone®, Supra®, T-Fal®, Resistal®, and Xylon®.

An Internet search conducted in March 2008, using the words “DuPont,” “lawsuit,” and “Teflon®” together, yielded almost 20,000 findings. Here are some highlights:

- ◆ In 2005, DuPont agreed to pay up to \$343 million in a settlement of a class action lawsuit instituted on behalf of nearly 70,000 people living near a DuPont plant in Parkersburg, West Virginia. DuPont had polluted the water in the Ohio River south of their plant with PFOA, resulting in birth defects, cancers, and other ailments. DuPont agreed to clean the water and pay to monitor the health of affected residents. Not surprisingly, the company is now trying to renege on its legal obligations.
- ◆ In March 2006, a panel of EPA scientists recommended that the agency formally label PFOA a likely carcinogen.
- ◆ In April 2006, DuPont settled a lawsuit from the EPA, which claimed that DuPont had been hiding health data about PFOA for decades. DuPont was fined \$10.25 million.
- ◆ In May 2006, twenty states and the District of Columbia filed multiple class action lawsuits against DuPont. Hundreds of internal documents showed that the company knew about the health risks of Teflon® since 1961, but failed to disclose them.

Reviewing court documents, Barbalace commented:

By 1984 DuPont was aware of . . . major problems with the production of Teflon®: Chemicals associated with the production of Teflon® had been linked to medical problems with workers, including polymer fume fever, leukemia, and liver damage. They had been linked to medical problems with test animals, including leukemia, cancer and reproductive dysfunction. Chemicals associated with the production of Teflon® had been linked to birth defects in humans and test animals. Chemicals associated with the production of Teflon® had been shown to accumulate in the blood of exposed individuals. Teflon® had been shown to offgas free radicals that can form toxic fumes at temperatures much lower than reported by DuPont.¹⁴⁸

Manufacturers stopped making PFOA in 2015. However, other products have taken its place that are chemically similar, made with perfluorocarbon (PFC) and perfluoroalkyl substances (PFAS). Scientists worldwide are correctly pointing out that *all* of these fluorine-based substances are carcinogenic. (Besides cookware, these chemicals are used as stain- and water-repellants for

clothing, carpets, furniture, bedding, food containers, and even some brands of dental floss.)

Safe materials for cookware have existed for awhile. These include heat-resistant glass, ceramic (enamel) over cast iron, plain cast iron, and stainless steel. Corning Vision® glassware is strong and easy to clean. High quality enamelware won't easily chip; but if it has a red, orange or yellow glaze, it may contain cadmium, so buy other colors. Plain cast iron lasts a lifetime if you dry it immediately after washing it and regularly *season* it, which means coating it with food oil to prevent rust. Cast iron is a great choice if you don't mind the weight of the pot or any iron that may leach into food, which occurs if you use something acidic like tomatoes, lemon or vinegar. Surgical quality stainless steel heats well, is easy to clean, and reportedly the metal doesn't leach into food due to its dense molecules.

Demands from health-conscious consumers and celebrity chefs have inspired manufacturers to seek new ways of producing non-toxic cookware that works well. In the past several years, a few companies have emerged to fulfill the

marketplace demand for non-stick cookware that's safe. One brand is Starfrit, which makes the chemical-free "Rock" line using high-impact metal pellets that harden the surface metal into a non-stick finish. There will undoubtedly be even better pots from other companies as the technology becomes perfected.

It's worth spending a little extra money to ensure that your cookware is safe.

Enjoy What You Eat

Diets are as varied as people. Someone whose immune function is compromised will require a food plan that's different from what a healthy person needs. And a person will require different nutrition at different times. However, everyone needs clean, drinkable water and wholesome, properly prepared food.

If you're feeling reasonably stress-free, have generally been well nourished, *and* are in good health (this last point is very important!), eating foods that are not on your meal plan once in a while won't hurt you. It can also be a lot of fun. I have seen people become as ill from the rigidity of their attitudes as from the junk they ingest. However, whether you're well or ill or somewhere in between, try to avoid foods that are genetically modified. GM foods raise toxic pesticide loads and quickly destroy the beneficial gut flora. Should you "fall off the diet wagon," enjoy what you're eating, forgive yourself, and eat better the next day.

**The only time to eat
diet food is while
you're waiting for
the steak to cook.**

—Julia Child
American cook, author,
and television personality
(1912–2004)

LEGAL INGESTIBLES WITH PHARMACOLOGICAL EFFECTS

Sometimes, people who are otherwise careful about their diet ingest food, beverages or inhalants whose negative effects earn them the nickname “recreational drugs.” The pharmacological effects of caffeine, alcohol, and tobacco are well known and their legal status is currently stable. The pharmacological effects of cannabis depends on the forms in which it’s used. Its legal status is arbitrary, depending on the whims of lawmakers.

Chocolate

Chocolate is cherished worldwide, including in the US. Some sources estimate that it comprises a full one percent of the average American’s diet. But even though many consider chocolate a food, it has so many pharmacological effects that it’s really a drug. This, along with recent extensive publicity rhapsodizing the health benefits of chocolate, makes it worth exploring whether chocolate is worth eating, how much, and under what circumstances.

Chocolate is derived from the seed or “bean” of the cacao fruit, which grows on a tropical evergreen tree belonging to the species *Theobroma cacao*. The cacao tree grows along the equator, mainly in South America and Africa. Its foot-long pods contain up to 50 seeds, each about the size of a lima bean, that are surrounded by a sweet, pulpy fruit. Long before the cacao bean was used for the chocolate confections of today, the fruit was used to make a fermented, mildly alcoholic beverage.

The Mayans were the first to use cacao, but it was the Aztecs who popularized grinding the seeds into a powder that was made into a beverage. To the ground beans, the Aztecs added hot water and spices (often chile pepper), but never sugar. This cacao beverage was not a dessert—it was drunk only by the nobility, priests, revered warriors and merchants, and honored guests. The Aztecs believed that cacao imparted strength, stamina and wisdom, undoubtedly due to the chemicals in the bean. Cacao contains over 300 chemical compounds, but it’s the stimulants that exert the strongest and most discernable effects. I’ll discuss the major stimulants first: caffeine, theobromine, theophylline, and phenylethylamine.

The caffeine content of a 1.4-ounce (40 gram) piece of chocolate is sometimes compared to the amount in one cup of decaffeinated coffee. But the “decaffeination” of coffee is a misnomer, as all coffee labeled “decaf” contains *some* caffeine; and the standard for decaf coffee ranges from as little as 5 mg to a whopping 258 mg per cup. (The average amount in a cup of decaf averages around 30 mg, depending on the origin of the coffee.)

One cup of cocoa contains only about 5 mg of caffeine. But even a small amount of caffeine can trigger a stress response. As discussed earlier in **Popular Beverages and “Health” Drinks**, caffeine abounds in coffee, cola drinks, and chocolate. Most people agree that there’s nothing redeeming about soda pop. But opinions vary greatly about coffee, and especially chocolate. Among other effects, caffeine irritates the gut (causing diarrhea, and sometimes nausea and vomiting). It damages the nervous system (causing mental hyperactivity and then fatigue). And it stresses the heart (causing rapid, irregular heartbeat). Caffeine also depletes serotonin, an important neurotransmitter already deficient in many people.

It’s true that one may feel more alert and energetic when eating chocolate (or drinking coffee). But this is due to an outpouring of adrenal stress hormones (including epinephrine); and eventually, with continued use of the caffeinated product, the adrenals become depleted. Epinephrine increases blood sugar levels, insulin resistance, and fat storage.

The alkaloid compound theobromine, another powerful stimulant, is abundant in cacao. It affects the cardiovascular, nervous, and urinary systems. In very small amounts, theobromine can induce mental and physical relaxation. But if ingested in larger amounts, theobromine can cause rapid and irregular heartbeat, nausea, migraines, increased urination, and sweating. People may respond negatively to even a very small amount of chocolate because of the theobromine, which incidentally is highly toxic to dogs in any amount (because they metabolize cacao so slowly). Like caffeine, theobromine can also cause insomnia, tremors, anxiety, and mental confusion. When the body metabolizes caffeine, even more theobromine is produced. This compound is so powerful, it has been used medicinally: to dilate blood vessels, as a diuretic, to stimulate the heart, and to promote weight loss.

Theophylline is another stimulant in cacao, although in only trace amounts. It’s used by modern medicine as a drug to treat asthma and other respiratory conditions. Warnings for its “side” effects mention symptoms similar to those of theobromine and caffeine, especially in those who are already sensitive to it.

Of all the stimulants in cacao, the most famous besides caffeine is probably phenylethylamine, abbreviated PEA. PEA is nicknamed the “love molecule” because it’s produced naturally in the brain in small amounts when someone is in love. This is why women especially turn to chocolate when a love affair has ended: chocolate’s PEA content simulates the effects of being loved, thus helping to postpone the inevitable grief over the loss of a lover. Molecularly similar to amphetamine and the

neurotransmitter dopamine, PEA stimulates dopamine receptors, thus increasing the speed at which information flows between nerve cells. In small amounts, PEA acts as a mood elevator, creating endorphins that induce euphoria and sometimes insatiable desire. PEA also helps increase energy and enhance alertness. But when ingested in chocolate—which contains higher and more potent levels than those normally found in the brain—PEA’s effects are very similar to those of amphetamine: decreased appetite, augmented heart rate and blood pressure, increased breathing rate, raised blood sugar levels, and sometimes even paranoia.

Other chemicals in cacao include tannic acid (tannins), which exist in greater amounts than they do in tea. Tannins bind to proteins and other nutrients, and prevent them from being utilized by the body. The phytic acid in cacao also binds minerals. It inhibits the activity of some digestive enzymes and promotes gut inflammation, leaky gut, and autoimmune disorders. Oxalic acid, present in cacao in high amounts, inhibits calcium absorption. Cacao beans may also contain aflatoxins, which can develop during fermentation (discussed shortly).

So far, I have focused on the mostly negative effects of the strong stimulants and some other chemicals in cacao beans. What about the beneficial components that have recently been touted by both the lay and medical communities? The beans do contain flavonoids (which protect delicate blood vessels), and antioxidant polyphenols (which fight free radicals in the body). (Two of these antioxidants are resveratrol, which is also in red wine, and catechins, which are also present in green tea.) Cacao contains anandamide, a messenger molecule that attaches to the cells’ receptor sites for pain relief, and which influences appetite, depression, fertility, memory, and higher thought processes. “Anandamide” is derived from the word *ananda*, which means “extreme delight” or “bliss” in Sanskrit. Not surprisingly, the molecular structure of anandamide is very similar to that of tetrahydrocannabinol—the ingredient in marijuana that causes the “high.” Cacao is also noted for being very high in magnesium, a mineral that is responsible for countless body functions and is usually deficient in the majority of the population. People with chocolate cravings often need the magnesium that it contains.

Another vital substance in cacao beans is tryptophan, an essential amino acid that the body cannot manufacture itself and must obtain from food. Tryptophan is the only substance that can be used to create serotonin, a vital neurotransmitter. Serotonin is involved in bone

metabolism, appetite and temperature regulation, learning, memory, sleep, wound healing, and in the proper function of muscles, the endocrine system and cardiovascular system. However, this neurotransmitter is probably best known for stabilizing mood and increasing feelings of well-being—a state that has created many chocoholics.

Chocolate companies make a point of citing cacao’s content of bioflavonoids, antioxidants, anandamide, magnesium, and tryptophan. But what about the harmful stimulants? And is raw cacao different from roasted? Some claim that raw is better than roasted because it

possesses the benefits without the drawbacks. To answer these questions, let’s take a quick look at how chocolate is produced.

In the manufacture of any cocoa product, the cacao pods are broken open and the seeds are removed from the fleshy fruit pulp. Then the beans are fermented in heaps under loose cloth

or plastic covers, which allow air to pass through for several days. As any remaining fruit liquifies and drains away from the solids, the chemical composition of the beans changes. They lose some of their bitterness and astringency, and acquire more robust, complex flavors. Then the beans are dried (“cured”) for another week, either in the sun or with electrical drying equipment. Next, pieces of pods and other debris are removed from the dried beans. Each cacao bean is actually a series of tiny long pieces or nibs, covered by a thin husk of dried fruit skin that’s like flimsy tissue paper. These husks must now be removed—either by hand, by machine, or with streams of air (presumably warm). At some point during fermentation, the bean’s naturally occurring fat, called “cocoa butter,” is separated (extruded) from the bean. It will be added back to chocolate bars, but not powder.

Further processing depends on whether commercial cocoa or raw cacao is being made. For raw, the beans are “cold pressed”—ground between very heavy granite millstones or stainless steel plates, presumably at minimal heat. Ideally, the temperature for cold pressing remains at 104°F (40°C), but the friction always produces some heat, and temperatures can reach a high 120°F (49°C)—enough to kill the beneficial living enzymes. Manufacturers of conventionally processed cocoa aren’t concerned about maintaining minimal heat, but to dedicated raw foodists, the heat issue is critical. Also, during fermentation, the temperature of the bean mass can sometimes rise to 118°F (47.8°C) or higher; so without personally monitoring the factory, there’s no way to know if a cacao producer’s claims are true. Also, no independent verification exists for “raw.”

Strength is the capacity to break a chocolate bar into four pieces with your bare hands—and then eat just one of the pieces.

—Judith Viorst
*Love and Guilt and the
Meaning of Life, etc., 1987*

The most important, major difference between raw cacao and conventional chocolate is that the heavily processed product is always roasted. This may be done either before or after the beans are crushed into pieces or further ground into powder. Roasting gives the cacao a more intense, presumably more desirable “chocolate” taste—or at least what we have been taught to associate with chocolate. Roasting temperatures most often range from 221°F (105°C) to 248°F (120°C), which means that all of the enzymes and a fair portion of other beneficial nutrients are destroyed.

The final difference between raw cacao and processed cocoa is that almost all conventionally manufactured chocolate is subjected to “Dutching,” or “Dutch processsing,” so named because a Dutchman invented the method. Raw cacao has a naturally acidic pH of between 5 and 6, which makes it extremely bitter. During Dutch processing, the cocoa is washed with a caustic potassium carbonate solution (later removed), which neutralizes its acidity, conferring a neutral pH of 7.0. This makes the processed cocoa more mellow, although it’s still quite bitter. Dutch cocoa is a very dark brown, while raw cacao is much lighter in color.

Dutching (alkalizing) the cacao degrades it, apart from the damage caused by roasting it at high heat. A 2008 study, published in the *Journal of Agricultural and Food Chemistry*, compared the antioxidant efficiency in cocoa that had been Dutched lightly (with a pH of 6.5–7.2), moderately (with a pH of 7.21–7.6), and heavily (with a pH of 7.61 and higher). Untreated cacao had the highest count of polyphenols and flavanols. The lightly Dutched chocolate only retained about 40% of the flavanols, and levels in the heavily Dutched chocolate were reduced to only a little over 10%.¹⁴⁹

In general, dark chocolate is reported to contain about twice as many antioxidants than red wine, and almost three times more antioxidant power than green tea. (Dark chocolate is always recommended because the dairy in milk chocolate prevents the body from absorbing the antioxidant polyphenols.) But these statistics can be deceptive. Chocolate studies don’t mention if the cacao being tested was raw, roasted, or roasted and Dutched. Most people don’t eat their chocolate raw—so how realistic are the studies? And dark chocolate contains some sugar to make it less bitter—so how healthy is it?

Compared to roasted beans, raw cacao is indeed higher in beneficial nutrients. It’s true that because bioflavonoids help the body metabolize nitric oxide (a gas that helps relax blood vessels), the flavanols in cacao may likewise protect the heart and lower blood pressure. And it’s true that flavanols (such as those in cacao) are

powerful enough to deactivate the free radicals present in cancerous tissue. The problem is, the cacao flavanols don’t exist independently of the stimulants, which are called “stimulants” for a reason: they work like drugs, overstimulating or mimicking the neurotransmitter receptors in the brain, in the same ways that cocaine, morphine and opiates do. In genuinely raw cacao, the nutrients are protected. But so are the stimulants! Despite glowing reports on chocolate, evidence strongly suggests that benefits of its nutrients are overshadowed by the toxic effects of the stimulants—for all but the healthiest. People with adrenal or chronic fatigue, autoimmune disorders, *Candida albicans* overgrowth, cardiovascular problems, chemical sensitivities, diabetes, digestive issues, fibromyalgia, food addictions, food intolerances, hormonal imbalances, and neurological disorders (mood swings, anxiety, migraines, neurotransmitter imbalances), are unlikely to benefit from roasted or raw cacao. I admit that raw cacao does feel lighter and more “alive” to me, and I feel less jittery from raw than from processed dark chocolate. Nevertheless, I still feel better if I indulge in tiny amounts, and only rarely.

Considering the damage caused by the stimulants in cacao, health claims for it—better insulin acceptance, protection of the nervous system, reduced risk of cardiovascular disease and stroke, lowered blood pressure, inhibition of brain inflammation that causes migraines, and even reduced risk of certain cancers and slowing of the aging process—appear outlandish.

There are other ways to obtain the beneficial nutrients of chocolate. The amino acid tryptophan, which increases serotonin levels in the body, is in free range turkey, wild fish, grass fed beef, whey, pastured eggs, and nuts. A small amount of carbohydrate eaten with the protein helps clear all of the amino acids except tryptophan from the bloodstream, which allows tryptophan to cross the blood brain barrier, unimpeded, to form serotonin. Some of the best complex carbohydrate foods for this purpose include bananas, sour cherries, and buckwheat. Foods high in magnesium include dark leafy greens, pumpkin seeds, and avocado. Bioflavonoids are abundant in peppers, broccoli, and citrus fruits. And plenty of fresh produce contains antioxidants. Before you decide to devote more of your food budget to chocolate, you might want to weigh the advantages against the disadvantages.

One more thing. Often, cacao is picked by young children under 12 years of age who are being forced to work under slave conditions. Some companies, aware of this exploitative practice, are making efforts to hire only adults and to pay them a living wage. This is known as *fair trade* chocolate, and the labels will indicate this.

Alcohol

An alcoholic beverage is technically the waste product of certain types of yeasts that feed on fruit and grain sugars. Wines and brandies are fruit-based, and beer and “hard” liquors such as vodka (that have a higher alcohol content) are grain-based. What the yeast is fed, and the kind of yeast used to create the drink, determines the beverage.

Alcohol impairs immune response. A diuretic, it forces the kidneys to excrete water that’s needed by the tissues. And it’s an anti-nutrient, affecting the body in ways similar to sugar (another refined carbohydrate). The body expends valuable vitamins and minerals to metabolize alcohol and detoxify from it. Women metabolize alcohol differently from men and are more susceptible to its negative effects, but it damages the following in everyone:

- ◆ *Cardiovascular system.* The heart muscle may become abnormally stretched, resulting in irregular heartbeat, high blood pressure, blood clots, and heart attacks.
- ◆ *Liver.* Due to its excessive toxic load, the liver is unable to detoxify from both the alcohol and its toxic byproducts (including ammonia), setting the stage for the development of fibrous growths, excessive fat (known as “fatty liver”), and inflammation (including cirrhosis, in which the biliary ducts are blocked).
- ◆ *Pancreas.* Alcohol causes blood sugar problems due to its easy absorption into the bloodstream and inflammation of the pancreas. Its breakdown waste product, *acetaldehyde*, can cause nausea and vomiting, abdominal pain, diarrhea, fever, and sweating.
- ◆ *Brain and nervous system.* Alcohol damages the branch-like ends of the nerve cells, which slows and scrambles nerve impulses and impairs neurotransmitter production. This results in sleep disturbances, anxiety, depression, mood and personality changes, motor coordination problems, the inability to focus, and even coma and death.

Intoxication from alcohol equals the destruction and death of brain cells. *It’s the death of brain cells, which leads to impaired transmission of electrical impulses, that provides the alcoholic high.* Note the word “toxic” in *intoxicated*. Alcohol poisons the liver and clogs the lymph vessels with waste. A hangover is literally lymph poisoning.

Don’t be fooled by claims that red wine confers health benefits. Wine is made from grape pulp and also its *skin*, which is the part of a red grape that’s rich in beneficial antioxidants. You can eat plain grapes for the antioxidants. If you want to drink, find an organic beverage without sulfur or sulfite preservatives. It will taste better, too.

Tobacco

Tobacco is part of this discussion because it’s a legal drug that’s widely used, sometimes in lieu of food. As incredible as it sounds, in the 1950s and 1960s doctors (or actors portraying doctors) appeared on television, in movie trailers, and in magazine and newspaper ads, alleging that smoking cigarettes was good for you. The ads claimed that more doctors smoked Lucky Strikes (or whatever brand was being endorsed) than any other brand. Or, there was “not one single case of throat irritation due to smoking Camels.”¹⁵⁰ Mickey Mantle and other sports heroes were paid to recruit new smokers. Today these ads seem quaint and amusing, but we now know that cigarettes are harmful and can kill. We also know that for decades, cigarette companies were well aware of the dangers of smoking but did not disclose these dangers, at the expense of people’s health and lives.

The harm of tobacco—whether smoked as cigarettes, inhaled (“vaped”) as e-cigarette vapor, or inhaled/chewed as snuff powder—is thoroughly documented. In addition to lung cancer, asthma, bronchitis, coronary disease, emphysema, pneumonia, strokes and tuberculosis, more recent studies prove that smoking is a causative factor in kidney disease, diabetes, infections, intestinal disorders, and more heart and lung ailments not previously linked to smoking. Nicotine causes *neutrophils* (a type of white blood cell) to release inflammatory molecules called *neutrophil extracellular traps* (NETs), which depress immune function. E-cigarettes and snuff increase the incidence of cavities, gum disease, mouth ulcers, and mouth cancer. Moreover, the metallic coils of many e-cigarettes release significantly toxic levels of lead, nickel, arsenic, and other heavy metals.

Smoking is linked to more than twelve types of cancer alone, largely due to the chemicals—sweeteners, preservatives, fire retardants and other toxins—added to the tobacco to make the cigarettes taste appealing (and be more addictive). All the major tobacco companies do this. When burned, these additives form over 4,000 even more poisonous chemical compounds. Just a few of these poisons—which are known carcinogens—include carbon monoxide (a deadly gas); acetaldehyde (a waste product in gasoline and excreted by the *Candida albicans* fungus); formaldehyde (used to embalm corpses); cyanide and arsenic (recognized poisons); lead (a deadly heavy metal that’s against the law to put in paints because it causes brain damage in children); chloroform (used as anesthesia); benzene (an industrial solvent); ammonia compounds (which increase the speed at which nicotine reaches the brain); and levulinic acid (which desensitizes the upper respiratory tract, thus reducing the harshness of the nicotine and augmenting the smoker’s tendency to

The Biochemistry Behind “Recreational” Drug Use

Some people inherit a special body chemistry, called sugar sensitivity, which sets them up to develop specific behavioral and psychological traits. Sugar-sensitive people generally have a family history of alcoholism and are very fond of sweet foods and carbohydrates. They are likely to be impulsive in general, may be compulsive about eating or other behaviors, and may be overweight and/or depressed. They may gain weight disproportional to the amount of calories they consume. They feel both physical and emotional pain more deeply. They may have unexplained or disproportionate anger, overreact to stress and fail to get the results they hope for in psychotherapy. Many have experienced childhood trauma or abuse. . . .

Low levels of serotonin are associated with obesity, carbohydrate craving, depression, impulsivity and violence. Low serotonin levels are also involved in depression . . . [and] can cause overwhelming sugar cravings. Many people with bulimia have insufficient supplies of serotonin. Lack of serotonin can disrupt your sleep patterns and lead to insomnia. Migraine headaches are the result of low serotonin levels. Lowered levels of serotonin are also associated with alcoholism. People who have experienced Post Traumatic Stress [Disorder] (PTSD) show decreased levels of serotonin as well.

Serotonin levels are increased during the intake of addictive substances, such as alcohol, tobacco, certain narcotics and caffeine. When individuals attempt to kick these habits, they often develop a chemical withdrawal syndrome when serotonin levels plummet. During withdrawal, patients get the “munchies” . . . overeating [that] in part, is related to chemical dependency withdrawal, a response to low serotonin levels. These same low serotonin levels may also be partly related to the severe depression and sleep deprivation that occur during withdrawal. Low serotonin levels make the withdrawing addict more prone to use addictive substances as the body tries to compensate for its serotonin loss.

Because serotonin directly regulates the body’s response to pain, and affects other neurotransmitters involved in pain control (like endorphins), maintaining adequate serotonin levels can relieve such painful syndromes as fibromyalgia, chronic fatigue syndrome, and premenstrual syndrome. Low levels of endorphins may make you feel depressed, impulsive and victimized. You may be touchy and tearful. And you will have a desperate craving for sugar.

Narcotics such as morphine, heroin and codeine, work like endorphins because their molecules have the same shape. They can fit into the endorphin receptor sites and fool the brain into thinking that natural endorphin was sent. Alcohol, through not acting on the receptors directly (like narcotics), . . . causes the brain to release additional endorphins to produce the [alcoholic drinking] “high” . . .

This heightened vulnerability to the effects of alcohol, opiate drugs and sugars may be particularly true for certain groups, including alcoholics and heroin addicts, women and obese men, and persons from families at risk for alcoholism—all known to have low levels of endorphins. Consequently, the experience of emotional stress by these groups may well lead to increased use of opioid-medicating substances. And use of moderate amounts of sugars or alcohol may well prime greater use of these relief-producing substances and lead to compulsive, long-term addiction.

5-hydroxytryptophan (5-HTP) is a substance that occurs naturally in the human body and helps in the manufacture of serotonin, a brain chemical that is associated with the feeling of well-being and fulfillment. 5-HTP [also] increases beta-endorphin levels, as well as levels of other brain chemicals, including dopamine and noradrenaline. The ability of 5-HTP to affect brain chemicals in the indoleamine family, as well as their cousins the catecholamines, helps explain why it has such a broad spectrum of effects throughout the body. 5-HTP can be particularly important for the sugar-sensitive personality. Laboratory tests show that people who have chronic complaints such as stress, depression, chronic fatigue syndrome, and fibromyalgia have low levels of endorphins. In Europe, 5-HTP has been used for decades as an approved treatment for depression, sleep problems, weight loss, and other medical complaints. [Editor’s note: *many people do better with plain tryptophan.*]

Three natural herbals can complement and enhance the benefits of 5-HTP (besides providing benefits of their own) for the sugar-sensitive person. The first is the relatively unknown Indian herb, *Gymnema sylvestre*—called the “anti-sugar” herb for its ability to cut back/stop sugar cravings—which has been used by Indian healers for nearly 2,000 years and has long been associated with alternative medicine. Another important herb for the sugar-sensitive person is *Ginkgo biloba*. This herb is an effective antidepressant, in part because it counteracts one of the major changes in brain chemistry associated with aging—the gradual reduction in the number of serotonin receptor sites. Besides increasing the number of serotonin receptors, *Ginkgo biloba* may also enhance the effects of 5-HTP by inhibiting the MAO enzyme. [And] *Ginkgo biloba* extract is effective in the treatment of decreased blood flow to the brain.

To enhance the effects of 5-HTP for depression, consider St. John’s wort [*Hypericum*, which] . . . exerts a potentiating effect on the three neurotransmitters—noradrenaline, serotonin, and dopamine—that are depleted in depression sufferers.

—excerpted from Cathy Oats,
“The Sugar Connection,” *Health News* (undated)

inhale deeply). Cigarettes also contain polonium-210—five thousand times as radioactive as radium, and a common source of local radiation poisoning—from the high-phosphate fertilizers, made from radioactive rock, that are applied to tobacco crops! The tobacco industry knew about this radiation in 1959, but concealed it. Most tobacco isn't organic, so toxic pesticides are also inhaled.

Cigarette filters are made of glass wool (fiberglass), whose needle-like splinters, inhaled into the lungs, tear and scar the tissue. This damage is similar to that caused by asbestos. Tobacco depletes nutrients. The body uses its vitamin and mineral stores to transmute the chemicals into less harmful ingredients.

Inhaling secondhand smoke is even more damaging than directly inhaling from a cigarette. According to a 2014 World Health Organization report, direct *and* secondhand smokers have a 45% percent higher risk of developing dementia and Alzheimer's. Cigarette filters help protect smokers from some of the contaminants; but those exposed to secondhand smoke lack this protection. In some parts of the world, laws have been passed that prohibit smoking in public places. Although these laws seem harsh to some smokers, they help protect the air that we all breathe.

Nicotine is well known for being physically addicting, but there's also a strong emotional component to smoking: many people who quit become depressed. Nicotine causes the brain to create the “feel-good” chemical dopamine, but the body becomes habituated to the nicotine. So, over time, more is needed for the smoker to feel normal. Also, although nicotine initially increases respiration, ultimately it dampens it. Decreased respiration equals decreased awareness of emotions because emotional expression is directly connected to the ability to take full, deep breaths (see the **Bodywork** section later in this chapter). We unconsciously hold our breath when we're depressed, which helps us avoid painful feelings. Thus, the inhibited respiration caused by tobacco ultimately helps us avoid painful emotions. When someone quits smoking, unwanted emotions tend to resurface—which partly accounts for reports of depression in former smokers. It's more empowering to learn to acknowledge, accept, and heal our emotions than to rely on externally administered chemicals that suppress or modify them.

Plain untreated tobacco is less harmful than commercial cigarettes. If you want to smoke, buy organically grown, untreated tobacco and roll your own cigarettes.

Marijuana / Hemp / Cannabis

Like its botanical relatives hops and nettles, *Cannabis sativa* tinctures, teas and powders have been used all over the world for centuries to treat many medical conditions. In fact, in the 1800s and early 1900s, the majority of medicines in the United States were derived from cannabis. Not coincidentally, the entire body contains receptor sites for the herb's compounds or *cannabinoids*. During exercise the body produces beneficial *endocannabinoids*, which are chemically similar to the plant compounds.

When the United States was founded, colonists were legally required to grow hemp, which was used for fabric, rope, paper, fuel, varnish, paint, and edible seeds. Livestock grazed on hemp, and people who ate the animals regularly ingested the cannabinoids. Doctors

legally and routinely prescribed cannabis oil until 1937, when the US government changed the herb's name to “marijuana” and imposed harsh tax laws to prevent it from being freely used. Decades later, marijuana was reclassified as a dangerous drug. Only recently have these laws been relaxed.

There are many different strains of *Cannabis sativa* with different properties and a combined total of no fewer than 483 chemical compounds.

I will discuss two strains.

Marijuana is raised for its *tetrahydrocannabinol* or *THC*, whose psychoactive effects are augmented when the dried herb is smoked (or sometimes cooked and baked into food). The female plant's flowers, buds, and concentrated resins (hashish) are the most potent. *Hemp* refers to cannabis that contains less than 0.3% of *THC* and may or may not contain high levels of *cannabidiol* or *CBD*. Both are therapeutic. After the US government banned cannabis, the plant was selectively bred to *increase* the levels of mind-altering *THC* compounds and *decrease* the levels of healing *CBD* compounds. Now that hemp is again legal in the US (providing it's mostly *THC*-free), cannabis growers are reintroducing the beneficial *CBD* and other compounds via manual selective breeding (not genetic engineering).

Several hundred medical journal articles, some from the 1980s, show that *cannabis* heals not only heart disease but also neurological disorders, including epilepsy, anxiety, PTSD, Parkinson's, and schizophrenia. Just a few titles are: “A Molecular Link between the Active Component of Marijuana and Alzheimer's Disease Pathology”¹⁵¹; “Pathways mediating the effects of cannabidiol on the reduction of breast cancer cell proliferation, invasion, and metastasis”¹⁵²; and “Cannabis in painful HIV-associated

When correctly used, herbs promote the elimination of waste matter and poisons from the system by simple, natural means. They support nature in its fight against disease; while chemicals, not being assimilable, add to the accumulation of morbid matter and only stimulate improvement by suppressing the symptoms.

—Thomas Alva Edison
American inventor of the electric light bulb
(1847–1931)

sensory neuropathy: a randomized placebo-controlled trial.”¹⁵³ Cannabis has anti-tumor activity. It restores appetite, thus preventing people with wasting diseases from starving. It alleviates pain associated not only with cancer, but also Multiple Sclerosis and glaucoma (by reducing excess pressure on the eyeball). And cannabis heals the gut—which has the same receptor sites as those in the brain and is sometimes called “the second brain.”

Truly medicinal marijuana is not smoked. Earlier in this chapter I discussed how fire damages plant and animal products. *Burning cannabis changes the chemical structure of its cannabinoids.* In fact, the hallucinogenic effects of THC are partly due to the augmented acid levels when the plant is burned. Brain chemistry, meridians, and energy fields all become unbalanced. Furthermore, burning the THC reduces other therapeutic effects that it could have on the body. This is why smoked marijuana can produce negative symptoms (especially if THC levels are high): impaired coordination, reaction times and short-term memory; depression, mood swings, paranoia and anxiety; and lowered blood sugar (which induces snacking, usually on carbohydrates, to replenish rapidly dwindling blood glucose levels). Burned pot can increase the heart rate by as much as 50%, and cause chest pain in those whose blood supply to the heart is already limited. Research also suggests that pregnant women who smoke pot may give birth to more premature and low birth-weight infants. Of course, inhaling any burning substance injures the lining of the lungs and produces free radicals in the body.

Medical doctor William Courtney advocates juicing *fresh, raw* cannabis leaves. The compounds in raw juice have anti-inflammatory, analgesic, and immune regulating properties. They improve the efficiency of the cellular mitochondria. They help with waste removal. And they protect the brain and nervous system from degeneration. Deep, permanent healing is reported for a wide range of conditions. It can take four weeks to start seeing results.

Most people cannot obtain raw cannabis, but cannabis *oil* is now commercially available. It's put into salves for skin wounds, inhaled (“vaped”) for respiratory, mental and nervous system disorders (this delivery system gets it into the bloodstream rapidly), and taken orally (ideal for healing the digestive tract). The oil should be organic, free of propylene glycol and other harmful solvents, and properly extracted. In unburned cannabis, the CBD mitigates some of the mind-altering effects of any existing THC. However, mild psychoactive stimulation can still be induced by THC and other similar compounds, all of which attach to the body's endocannabinoid receptor sites. People react differently to different strains.

By the way, drug companies are now applying for—and receiving—patents for medical marijuana.

HERBS

Seasoning or Therapy?

When you hear the word “herb,” it's easy to think about the oregano in your mom's spaghetti sauce and forget the centuries during which humankind used herbs as medicine in thousands of ways.

Cooks use the word “herb” differently than do herbalists. In the culinary arts, a plant's leaves, stalks and flowers are called herbs; and its seeds, bark and occasionally flowers are called spices. Basil, parsley, cilantro and tarragon—all leaves—are herbs. Peppercorns (seeds), coriander (the round seed of the cilantro plant), cinnamon (the bark of a tree), and saffron (the golden orange stigma threads of the autumn crocus) are all spices. When discussing the therapeutic use of herbs, however, I define “herb” as a seed-bearing plant that does not develop woody tissue but dies at the end of a growing season, and which is valued for its medicinal properties. Any part of the plant can be used: stalk, leaf, bud, flower, root, or seed.

How did our ancestors know which plants to use for what ailed them? They observed what plants sick animals ate. To find new remedies, the most experienced users—herbalists or medicine men/women—hiked the outdoors with their followers. When they saw a new interesting plant they'd stop, smell, pick, chew, swallow, and wait to see what the effects were. As you might imagine, this method produced some casualties. Through centuries of observation, treatment and experimentation, humans learned which herbs worked and under what circumstances. Knowledge was first imparted orally, and later careful written records were kept.

Some herbalists classify plants as either medicinal because they are solely used to treat illnesses and chronic conditions, or culinary because they are used as flavoring. However, with these definitions the line between the two groups can be blurry. It's true that some very unpleasant tasting herbs such as goldenseal and valerian root are used solely for medicinal purposes. But other plants used in cooking can be used medicinally, provided they're consumed in sufficient quantities. For instance, turmeric, a root related to ginger—often used in Indian cuisine to impart flavor and a distinctive golden color—has considerable anti-inflammatory properties and inhibits the growth of tumors if used in large enough quantities. Hot peppers, which provide heat, have also been a staple in Indian meals for centuries due to their antiparasitic and antibacterial qualities (a valuable feature in a tropical land where food can spoil easily). And aromatic spices such as cardamom and cinnamon are used not only to make food tastier, but also to foster digestion.

Likewise, in many parts of the world, bitter greens such as dandelions are eaten as salads because they improve digestion by stimulating the liver to produce bile, increasing the production of saliva in the mouth, and encouraging the production of hydrochloric acid in the stomach. Clearly, a much more objective indicator of what constitutes a medicinal plant is needed, as the above considerations seem to depend as much on the intention of the user as on the plant's potency, properties, and amounts used.

The answer to the classification problem—as well as a truer understanding of what herbology is really about—lies in the science of *phytotherapy*, or the pharmacology and medicinal application of plants and their extracts. The practice of phytotherapy is taken so seriously in Australia that herbs are heavily regulated, like drugs. In Australia, an herbologist is called a *phytotherapist*.

Kerry Bone, a well-known phytotherapist in his native Australia, has gained worldwide recognition in the last decade. His outstanding textbook (written with Simon Mills), *Principles and Practice of Phytotherapy*, explains that although many laypeople and even some professionals mistakenly believe that “the various nutrients such as vitamins, minerals, . . . enzymes and other proteins, lipids, carbohydrates and chlorophyll . . . and so on are responsible for the pharmacological activity of plants, . . . almost without exception, this is not the case.” These nutrients—which phytotherapists call “primary metabolites”—are “necessary to sustain the life of the plant”; but it is the “secondary metabolites” that interest phytotherapists the most. Secondary metabolites “do not appear to be necessary to sustain [the plant's] life,” but appear to “have more subtle functions which increase the survival prospects of the plant in its natural environment.”¹⁵⁴ Plant survival mechanisms include the chemicals it produces to defend itself against fungi, insects, and other unique stressors in its environment. Because the phytochemicals protect the plant, chances are they can protect the humans and other animals that eat those plants. It is these chemicals that provide the foundation of phytotherapy, or herbal medicine. (This category does not include toxic compounds that prevent seeds or grains from sprouting.)

The pau d'arco tree in South America is an example of this principle. The bark of the tree has been used medicinally by the Brazilian Indians for over a thousand years, due to its ability to resist rot and fungi in a humid, hot climate. Today, people with *Candida albicans* and other fungal infections make the bark into teas and tinctures to provide enhanced immune function and resistance against yeasts, fungi, and mold.

The displacement of herbs by modern synthesized pharmaceuticals is a recent phenomenon. White willow

bark, which contains salicin, was routinely used for headaches, pain and fever since at least the 5th century BC—until the Bayer Company, in 1897, extracted the salicin and synthesized it into the chemically similar acetylsalicylic acid, otherwise known as Aspirin®. (Aspirin has become so commonplace that the word is now used as a generic term.) *Digitalis latana* (foxglove) was used before we had the chemical digoxin. Opium was smoked from poppies to treat pain before morphine was extracted in 1806, and codeine was synthesized in 1832, from the opium. The powdered bark of the cinchona tree was a popular remedy for malaria until quinine was isolated in 1944. The Pacific yew tree was a folk medication long before the drug we call Taxol® was separated and synthesized from the bark for its anticancer properties. (The drug is not as effective as the herb, as it doesn't contain all the phytochemicals of the bark from which it was derived.)

For centuries in India, the root of the *Rauwolfia serpentina* (a plant in the dogbane family) was taken as a tranquilizer before scientists isolated and extracted specific chemicals to treat hypertension. And witch hazel leaves were made into tinctures and poultices to alleviate congestive blood disorders, long before modern chemists distilled select portions of the plant to obtain the clear liquid we buy today at the drug store.

The list of plant-derived remedies is endless. Mills and Bone conclude, from a review of herbal therapy traditions, that herbal medicines did not target symptoms, but corrected internal disharmonies.

In the absence of modern instrumentation, internal disharmonies were understood as *subjective* matters, often described in climatic or emotional metaphors or by metaphysical constructs [the Chinese] (*yin/yang*, the [Indian Ayurvedic medicine] *doshas*, the [European] humours), that were widely understood among the general population. From the herbalist's perspective, most internal disharmonies involved literal or substantial disruptions in the body . . . [involving] equally the body and the mind (and often the spirit), so that one internal disharmony could affect all planes of experience. *There was no Cartesian [mechanized] body-mind split.*¹⁵⁵

One of the most serious subversions of herbs, resulting from the mechanized body-mind split, is the practice of extracting and isolating the so-called active ingredient from the plant. From the allopathic perspective, it is perfectly reasonable to extract the “active” ingredient from herbs and eliminate all of the “extraneous” parts of the plant that appear to be irrelevant to the effects we want to create. The problem with this mindset is

that these “extraneous” materials are integral to, and synergistic with, the total effects of the plant. The word *synergistic* is from the Greek *synergetikos*, which means “working together, in cooperation.” An herb contains not just the presumably (or only) “active” ingredient, it contains many ingredients that interact with each other as a complex whole, so that the effects of the whole are greater than the sum of its parts.

How does this principle translate to a plant’s effect on people? Consider *Hypericum perforatum* (St. John’s wort), used for its antidepressant effect. When scientists extracted hypericin and pseudohypericin from the plant—the two “active” ingredients responsible for the antidepressant activity—the test subjects were not very successful in overcoming their depression. However, when a third, apparently innocuous compound from the plant (procyanidins) was added to the mix, the total antidepressant activity markedly intensified. Procyanidins do not have any mood altering effect of their own. However, they help the body assimilate the other two substances by making them more soluble. Again, we learn the lesson that the entire plant is needed, although there are some exceptions. See Sidebar, “The Creation of New Herbal Substances.”

The allopathic tendency to isolate from herbs only what it considers useful, causes problems with so-called “side” effects. “Side” effects exist in allopathic medicines because the body is trying to assimilate a “pure”—in other words, fractionated and isolated—chemical. But “pure” chemicals don’t exist in Nature. The phytochemicals in plants exist in a matrix, where they not only complement each other, but in some cases neutralize the negative effects of the other constituents. A good example of this principle can be seen in the effects of aspirin versus white willow, both of which are taken for headache and other pain. Aspirin, the modern pharmaceutical, can upset the stomach. White willow bark does not. Why? The ingredients in the whole plant provide their own checks and balances against harsh effects like stomach upset. Modern pharmacologists, believing that they can improve on natural plants by eliminating all those unnecessary “extra” ingredients except the one chemical “known” to reduce pain, have produced vastly inferior products.

A properly trained herbalist is so aware of the need for checks and balances when dealing with living systems, that not only are the right herbs painstakingly chosen, but combinations of different herbs are also selected very carefully to enhance a desired outcome and mitigate possible unfavorable effects. The holistic approach of qualified herbalists is not antithetical to good science. In fact, the vast knowledge of chemistry required for a professional phytotherapy practice indicates a much

The Creation of New Herbal Substances

There are a few exceptions to the centuries-old tradition of using whole herbs. Sometimes, even without a historical precedent, only portions of plants are used. Take *Ginkgo biloba*, one of the oldest species of trees on Earth, believed to have inhabited the planet up to 150 million years ago. Ginkgo trees can live to be over thousands of years old. The nuts of the tree have been widely used in traditional Chinese medicine for centuries, but no literature exists on the use of the leaves for any purpose.

The high levels of antioxidant flavonoids and terpenoids in the tree—which protect it from oxidative cell damage caused by free radicals—work for humans, too. In the 1960s, German scientists experimenting with a highly concentrated ginkgo leaf extract discovered that it could enhance memory and cognitive function, increase blood flow (in the brain, sexual organs, and other areas), oxygenate the tissues, and even expel intestinal worms. Although the ginkgo leaf extract is standardized for only its major so-called active ingredients—which would appear to place it more in the category of fractionated drug than whole herb—the formula is stable, works well for the desired purposes, and is very safe without “side” (undesirable) effects. Rightly, herbalists see no reason not to use ginkgo leaves.

deeper understanding of rigorous science than is normally displayed by many pharmacists, and certainly most doctors.

Macrobiotics consultant Steve Gagné reminds us that “Drugs themselves...are hyperspecialized descendants of herbal remedies, which themselves are extensions of the healing lore of ancient Food Energetics.”¹⁵⁶ Ideally, we try to use food first to correct an imbalance that creates the need for an herb, although sometimes the most nutritious food cannot nourish us and we need stronger agents to catalyze change. However, herbs should be used with care (although they are far safer than pharmaceuticals). For instance, some herbs should not be used at all during pregnancy. And other herbs that are popularly touted as indispensable and suitable for everyone, may not be: licorice, for instance, is contraindicated for people who retain water. This points to the wisdom of consulting an experienced herbologist unless you have a good grasp of the scientific literature and know what you’re doing.

Some herbalists distinguish between what they regard as “non-medicinal” and “medicinal” herbs. They erroneously believe that “non-medicinal” herbs cause gentle and slow changes and can be used safely on a regular basis, while the stronger, so-called “medicinal” herbs should be used only under certain conditions because they induce the

body to undergo radical changes in a short period of time. These distinctions are inaccurate, though. From the phytochemist's perspective, *all* herbs used for their secondary metabolite properties are “medicinal”—in other words, therapeutic—because they support the body's efforts to restore balance. This is why some phytotherapists refer to an herb as a “biological response modifier.”

Although an herb can act as an agent to transform bodily functions and tissues, if it's properly administered, it creates change without compromising the long-term integrity of the organism. This is in contrast to synthesized pharmaceuticals, which rarely help the body balance itself. So even though phytotherapy is serious science, herbs are not drugs (though they are sometimes used in that way).

That said, a medicinal herb does not have to be used medicinally all the time. Take turmeric and ginger, common in many kitchens. When used in food, these roots are ingested in *seasoning amounts*—although if therapeutic herbs and spices are used often enough and in moderate amounts, there are often therapeutic effects, even if that's not the primary intention for their use. When used to bring someone's system back into balance—for example, if the turmeric and ginger are taken for their anti-inflammatory properties—they are consumed in much larger *therapeutic doses*. When the herbs are used

in slightly smaller amounts to help anchor the changes that occurred during the time the person was on the therapeutic dose, this is considered a *maintenance dose*. During illness, therapeutic doses are administered often. For maintenance, herbs are administered less often. They are used only to sustain the progress made when the person was taking more herb on a more frequent basis.

However, the benefits of some herbs—such as rosemary (for brain function) or aloe's inner leaf (to diminish wrinkles)—actually decrease when they are taken in excess. Some herbs have more exacting levels of optimal effectiveness, and you may require an herbalist's guidance.

Potency and Effectiveness

Despite the centuries-old track record enjoyed by herbs, some people who resonate with holistic healing and have taken herbs for a variety of conditions are disappointed by the results. But this doesn't mean that herbal remedies aren't effective. How the herbs are grown, gathered, and processed affects their potency and effectiveness. Assuming (for the most part) that the person has taken the correct herb, there are many reasons why an herbal preparation might not produce the desired (if any) effects:

A Brief Summary of Essential Oils

Essential oils (from the word “essence”) are mixtures of fragrant compounds which can be isolated from plants by the process of steam distillation. In this procedure, steam is driven through the plant material and then condensed, with the subsequent oil and water phases separating out. Since they are volatile in steam and usually have pronounced aromas, essential oils are often referred to as volatile oils. However, this term is not accurate since they have boiling points well above 100°C [212°F]. Often the oil is slightly modified by the steam distillation process [as well as solvent extraction and dry extraction], so that it does not exactly reflect what is found in the plant. In some cases, such as chamazulene from German chamomile, steam distillation actually produces substantial quantities of a new chemical.

Other processes are also used to produce essential oils and these include [extraction with] solvent . . . [as well as] enfleurage (oil extraction of delicate essential oils in flowers) and expression (used to produce orange and lemon oils from the peel). . . . Essential oils are important items of commerce, being used for perfumes, food flavorings and personal and pharmaceutical products. They also comprise the medicines of the therapeutic system known as aromatherapy [the inhalation of essential oils to enhance mental function, emotional states and physical health].

Essential oils are water-insoluble oily liquids which are usually colorless. Despite the fact that they are called oils, they are not chemically related to lipid oils (fixed oils) such as olive oil, corn oil and so on. . . . They will slowly evaporate if left in an open container and placing a drop of oil on blotting paper can be used as a simple technique to test for adulteration with a fixed oil. If a fixed oil is present an oily smear will remain on the paper a few days later.

Adulteration is an important issue. . . . In some cases, such as oil of wintergreen, trade in the synthetic oil has completely supplanted the natural product. A recent survey found a large variability between the biological activities of different samples of oils and groups of oils under the same general name, including samples from lavender, eucalyptus and chamomile. This reflected on the blending, rectification and adulteration which occurs with commercial oils. Of course, this issue does not apply to oils prescribed as part of the whole plant extract . . .

Essential oils are highly concentrated compared to the original plant [and its extract]. . . . Given the great chemical diversity of essential oils, it is not surprising that they exhibit a wide variety of pharmacological activities.

—Simon Mills and Kerry Bone
Principles and Practice of Phytotherapy, 2000

- ◆ A plant is only as potent as the soil in which it's grown. Mineral-deficient soil produces a mineral-deficient plant. This not only reduces the herb's effectiveness and potency, it can even change its appearance.
- ◆ The season and even the time of day or night that the plant is picked helps determine its potency—or even if it's effective at all. This is because the presence or absence of light stimulates or suppresses the plant's production of the desired phytochemicals.
- ◆ Different parts of the plant (leaves, stalks, flowers, buds, and roots) usually have different properties. For example, a label reading “Contains 100% Panax Ginseng” might seem to indicate a high quality product. But only the roots are desirable. If the formula contains worthless leaves, this would impair or even completely negate the overall potency of the formula.
- ◆ For optimal potency and effect, a tincture (liquid concentrate) should be produced from dried herbs, not fresh, because the high water content of a fresh plant (typically, about 80%) will dilute the final preparation and yield a much weaker concentration of valuable phytochemicals, thus lessening the benefits. Also, the naturally occurring enzymes in the fresh plant degrade and deactivate the other phytochemicals. Proper drying of the plant preserves all the constituents intact. Note that some herbal preparations are not usable as tinctures and can only be made into powders. A good example is *mucilaginous* or gooey, water-loving herbs such as slippery elm bark. Because the molecules trap water so easily and swell to many times their own size, it's impractical to bottle them as liquids, because in a very short time they would not be able to be poured.
- ◆ If some plants are dried at too high a temperature, their volatile oils evaporate. Not all herbs are destroyed by intense heat. The phytochemist must know which herbs can and cannot withstand heat.
- ◆ Phytochemicals are either water soluble, fat soluble, or alcohol soluble. Sometimes, different components in the same plant respond to different extraction processes. It's important to process plants correctly so all of the phytochemicals are available to the body.
- ◆ The company that processes the tinctures, and/or bottles and markets the final product, is unlikely to grow the herbs itself or have equipment to test the botanical reliability or potency of the herbs. Therefore, it must accept the supplier's word that the herbs are genuine and contain the desired phytochemicals. If the supplier is dishonest or ignorant, the company has no way of checking. This loss is passed on to the consumer.
- ◆ The herbalist must recommend doses according to the levels of active phytochemicals in the particular plant. Seven to ten grams is generally considered to be a therapeutic dose. If not enough tincture or powder is taken, the desired results won't occur.
- ◆ If an herb is tested in the laboratory, it might work *in vitro* (in the test tube) but not *in vivo* (in a living human or animal body) because the two media usually function in radically different ways. However, the company might still make claims that the herb works.
- ◆ Sometimes plants look virtually identical and grow in the same location, but are actually different plants containing vastly different chemical constituents. For example, goldenseal (*Hydrastis canadensis*)—which is rightly valued for its germicidal and anti-tumor properties—might be substituted with the very different wild geranium (*Geranium maculatum*).

The above factors explain mixed results using herbs. Once I needed white willow bark capsules. Wanting to support a local small business instead of a national company whose capsules I normally used, I bought an unfamiliar tincture. The tincture did nothing except empty my wallet. I threw it away and bought another bottle of capsules from the large company, whose label listed the standardized dosage of “active” ingredients. Unlike the locally produced tincture, the capsules worked.

Another learning experience involved the safety and potency of echinacea. There's a widespread fable that taking echinacea continuously for more than several days is harmful because the herb eventually disables one's immune function, making it impossible for the herb to work later when you “really need it.” According to Mills and Bone, this is a misinterpretation of *one* published clinical study

Gemmotherapy: Stem Cell Therapy From Plants

Gemmotherapy was developed in the 1950s. The term is derived from Latin *gemmae* for “plant bud.” The buds, young shoots, and rootlets of wildcrafted plants—all embryonic tissue—contain the most potent energy and vitality of a plant: nutrients, plant growth hormones, genetic information, and more.

The plants are tinctured and homeopathically potentized. These remedies stimulate the excretory organs (liver, kidneys, skin, colon etc.), and induce gentle, steady drainage. In addition to detoxifying, Gemmotherapy nourishes and rejuvenates. It reverses the effects of aging, increases energy levels, reduces stress, enhances immune response, and improves organ function, gland function, and vision. The tinctures are powerful and inexpensive.

showing that daily ingestion of echinacea did indeed increase the activity level of phagocytes (white blood cells that destroy pathogens and foreign particles). After five days, the test doses were stopped and blood samples were taken immediately. Phagocyte levels remained high for about two days after the echinacea was withdrawn, but then they returned to their former levels. Had the experimenters continued to monitor the blood levels of the test subjects, they would have seen the immune-stimulation effects subside—and presented this data as part of the experiment. The fact that the high white blood cell count remained for two days after the echinacea was withdrawn is a testimony to the herb's effectiveness.

Most tests on echinacea are poorly designed. Sometimes plants with different chemical constituents are used, and treated as comparable when they're not. Some tests use extracts that are diluted but shouldn't be. Also, most research doesn't use oral doses, but injections—which isn't how the herb is taken anywhere in the world. One much-quoted study used healthy volunteers whose immune function was already strong. No increase of white blood cells was noted, so this gave the impression that echinacea doesn't work! Were such "mistakes" deliberately made? Very likely, if the studies were funded by pharmaceutical companies.

For centuries, the Native Americans used echinacea for infections because of its ability to support optimal white blood cell function as well as inhibit the mobility of bacteria. The herb has been used (and can be used) with no ill effects, many times daily during illness, and fewer times a day for maintenance. Throughout the years when I took various brands of echinacea tincture, sometimes I'd notice an improvement in my condition, but other times I would not. It was only after I took a class with phytotherapist Kerry Bone that I learned the key to the herb's potency. Echinacea extract causes the entire mouth to tingle and the tongue to feel somewhat numb. If there's no tingle, the formula's dead.

Herbal preparations should be living, like foods. If you don't see results, you may be using the wrong remedy, or using it incorrectly. Or, the product may not have been made in a way that preserved the effects of the plant. Ask questions about the company's research and potency evaluation facilities. And use herbs with a track record. If the herb is newly discovered, or has been used only recently for a specific purpose, read the scientific literature or talk to someone you trust who has done or read the research.

Just as with foods, certain herbs might be wonderful for someone else but not for you. And different herbs can react with each other—sometimes in beneficial ways, sometimes not. For minor conditions, it might be appropriate to take one or just a few herbs, or a time-tested combination formula from a company with a track record. However, for a serious or chronic condition, see a qualified herbologist who can design a protocol for your unique body chemistry and situation.

"Herbal medicine is not an anachronism practiced by ignorant people. . . . A form of herbal medicine is practiced in every culture and in every country of the world, be it industrialized or not," write Bone and Mills. "Something deep within us recognizes that there is healing power in the plant kingdom which, after all,

is the nourishment of all animal life."¹⁵⁷ The idea that pharmacology can replace plants is not only arrogant, but extremely disrespectful to indigenous cultures. Why does modern medicine believe that it can improve, in one century, what native peoples have been practicing effectively for thousands of years?

Vitamins Prevent Chronic Disease

Most people do not consume an optimal amount of all vitamins by diet alone. Pending strong evidence of effectiveness from randomized trials, it appears prudent for all adults to take vitamin supplements.

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June 19, 2002

NUTRITIONAL SUPPLEMENTS

The nutritional supplements industry has grown rapidly in the last few decades as more people have become health conscious, despite the persistence of negative myths about supplements. The FDA largely claims that we obtain adequate amounts of vitamins and minerals from the foods we eat, yet its suggestions for our "minimum daily requirements" are based on the needs of rats, not humans. Moreover, the medical establishment periodically issues warnings about some vitamins and minerals as though they were drugs. Finally, the public is misled to believe that all nutritional supplements are essentially the same.

As a rule, the body's first focus is on maintaining reproductive ability and short-term health. Only if there are enough nutrients will it then choose cellular repair. Long term diseases, which involve inflammation and oxidative stress, take a long time to develop. They also indicate chronic nutrient deficiencies.

The chronic illness plaguing us worldwide indicates nutrient starvation. Therefore, in this section I will explain what to look for when buying nutritional supplements. First, here's a very brief overview of some basic nutrients.

Basic Nutrients

Vitamins

The word *vitamin* used to be spelled “vitamine.” It comes from two Latin words: *vita* which means “life,” and *amine* to signify an amino acid—because when vitamins were first discovered, they were mistakenly thought to contain amino acids. (Amino acids are the building blocks of protein.) Vitamins are now considered to be co-enzymes because they naturally combine with other substances (such as peptides) to catalyze them to do their jobs. Vital for health, vitamins generally cannot be synthesized by the body and must be obtained from foods.

Minerals

Due to the depletion of our soil, people tend to suffer more from mineral than vitamin deficiencies (except for Vitamin C, discussed shortly). This is especially true of boron, chromium, selenium, and other trace minerals.

The **Water** section at the beginning of this chapter discusses minerals in depth; but a few points are worth reiterating. Mineral salts (*electrolytes*), in proper ratio on either side of a cell membrane, act together like miniature batteries. They regulate the transport of all nutrients into the cell. If the body’s electrical signals are muffled or incomplete, cell functions suffer.

Minerals must always accompany vitamins and other minerals to help maintain systemic balance. One example is calcium, which requires the mineral magnesium to help it across the cell membranes of bones. If not enough magnesium is present, the excess calcium doesn’t reach the bones and instead collects in the soft tissues, causing a type of arthritis. Another mineral, boron, helps with calcium absorption. Vitamin D3 (discussed later as really being a hormone) is also essential for calcium absorption because it promotes the mineralization of bones and prevents them from becoming brittle and deformed. As for calcium, different people require different forms of it (calcium can bind to various elements). Just this example shows the degree of complexity possible with nutrient interactions.

Enzymes

Enzymes catalyze all types of chemical reactions in the body without being destroyed themselves. Although comprised chiefly of amino acids, an enzyme may also contain a single molecule of a mineral (such as copper, iron or zinc) in order to function. “In the 1930’s,” write Sally Fallon and Mary Enig, “when enzymes first came to the attention of biochemists, some 80 were identified; today, over 5,000 have been discovered.”¹⁵⁸ Medical doctor and enzyme expert Edward Howell wrote that what has been

called “vitality, vital force, vital energy, . . . life energy, life and life force” is actually enzyme activity.¹⁵⁹

All enzymatic functions relate to metabolic functions, which are either anabolic or catabolic. During an *anabolic* process, ingredients *combine* to form more complex substances, as in the buildup of muscle tissue. During a *catabolic* process, complex materials *break down* into simpler ones, as when foods are reduced to more basic components. Chiropractor and nutritionist Anthony Cichoke classifies enzymes into six groups, based on the substances they affect and the types of biochemical reactions they induce. Fallon and Enig have a more practical, usable system for the layperson:

Enzymes fall into one of three major classifications.

The largest is the metabolic enzymes, which play a role in all bodily processes including breathing, talking, moving, thinking, behavior and maintenance of the immune system. A subset of these metabolic enzymes acts to neutralize poisons and carcinogens, such as pollutants, DDT and tobacco smoke, changing them into less toxic forms, which the body can then eliminate.

The second category is the digestive enzymes, of which there are about 22 in number. Most of these are manufactured by the pancreas. They are secreted by glands in the duodenum (the upper part of the small intestine) and work to break down the bulk of partially digested food leaving the stomach.

The enzymes we need to consider when planning our diets are the third category, the food enzymes. These are present in raw foods, and they initiate the process of digestion in the mouth and stomach. Food enzymes include proteases for digesting protein, lipases for digesting fats and amylases for digesting carbohydrates. Amylases in saliva contribute to the digestion of carbohydrates while they are being chewed, and all enzymes found in food continue this process while it is mixed and churned by contractions in the stomach. The glands in the stomach secrete hydrochloric acid and pepsinogen, which initiate the process of protein digestion, as well as the intrinsic factor needed for vitamin B12 absorption; but the various enzymes needed for complete digestion of our food are not secreted until further down line, in the small intestine.¹⁶⁰

Enzymes already present in sprouts and in raw and fermented foods help digest those foods. They’re destroyed by heat. Holistic practitioners advise people

who eat cooked food, are ill, or are over 40 years old, to supplement with digestive enzymes.

Functionally, enzymes can be interchangeable. This is why systemic enzymes used for inflammation should be taken on an empty stomach. Otherwise, the activity of the enzymes will be used to digest food instead of scavenge the irritating substances in the bloodstream and tissues that cause the inflammation.

Enzymes are so important to life processes that many practitioners consider supplements mandatory for those with chronic or life-threatening illness. Cichoke writes:

Enzymes can aid digestion, dissolve blood clots, fight back pain, decrease swelling, speed up healing, fight wrinkles, clean surfaces of dirty wounds, help in delicate surgery, ease hindered breathing, stimulate the immune system, and help fight cancer and HIV/AIDS and other viruses. In other words, enzymes can do an awful lot.¹⁶¹

Is it possible to take too many enzymes? “There appear to be no side effects of long-term duration when taking oral enzymes,”¹⁶² Cichoke advises. However, people with clotting disorders, and who are about to undergo surgery, should avoid taking proteolytic (protein-digesting) enzymes, which could thin the blood excessively.

Enzymes are extracted from plants and animal organs. Because they’re more difficult to make than even food-based vitamin supplements, they cost more. In Germany and other parts of Europe, enzymes are the most popular over-the-counter product for relief of pain and inflammation. They work well and cause no “side” effects.

Some enzymes are used to break apart *biofilm*—the sticky, hard, gooey coating secreted by colonies of pathogens to protect themselves from destruction. Most pharmaceutical antibiotics and natural antimicrobials cannot eliminate pathogens hiding in biofilm because the hard shield prevents direct contact. But once biofilm is dismantled, one layer at a time, the pathogens can be destroyed. Some effective enzymes to take for this purpose (on an empty stomach, of course) are serrapeptase, nattokinase, and lumbrokinase.

Essential Fatty Acids (EFAs)

The essential fatty acids Omega 3, 6, and 9 are named according to where the first double bond in their chemical structure is located from the omega end of the molecular chain. EFAs are vital for the development and maintenance of the brain and nervous system. They improve mood and memory, fight inflammation, and support heart health.

EFAs cannot be created by the body (except for a bit of Omega 9), so they must be obtained from food. The relatively unknown Omega 7 is considered “non-essential,”

but it’s also used by the nerve tissue, skin and eyes, and helps burn abdominal fat.

Omega 3 supplements are sourced from either fatty fish (high on the food chain) or shrimp-like krill. Due to severe pollution in our oceans, the larger fish are loaded with mercury. The fish oils should be fresh, and molecularly distilled to remove all traces of heavy metals. The labels will indicate this. Omega 7s can be found in sea buckthorn oil (which causes diarrhea if consumed in excess), and in macadamia nuts and the nut oil (safe). Omega 6s are found in many foods, especially nuts and grains, and can cause inflammation. Most people consume too much Omega 6.

Amino Acids

Amino acids are the building blocks of protein. The body can produce many amino acids from other raw materials, except nine “essential” amino acids that must be obtained from food. Whether you eat animal products (which contain all of the essential amino acids), or foods from the grain or pea/bean/legume group (most of which contain fewer essential amino acids), the body dismantles these proteins into individual amino acids, and then reassembles them to build what it needs: muscle, fascia, skin, hair, enzymes, neurochemicals. The right individual amino acid supplements can safely replace dangerous pharmaceuticals that are taken to presumably balance the brain’s neurotransmitters (see *The Mood Cure* by Julia Ross).

Why We Need Supplements

Our nutrient-depleted soil creates deficiencies in our crops, and then in our bodies. As far back as June 1, 1936, a Mr. Fletcher spoke before the second session of the 74th Congress. His paper, reprinted by the US Government Printing Office in Washington, DC, was known as United States Senate Document #264. It read in part:

Do you know that most of us today are suffering from certain dangerous diet deficiencies which cannot be remedied until the depleted soils from which our foods come are brought into proper mineral balance? . . . Laboratory tests prove that the fruits, the vegetables, the grains, the eggs, and even the milk and the meats of today are not what they were a few generations ago. [They are]. . . now being raised on millions of acres of land that no longer contain enough of certain needed minerals, are starving us—no matter how much of them we eat! . . . A balanced and fully nourishing diet . . . must contain . . . a score of mineral salts. . . 99% of the American people are deficient in these minerals, and that

a marked deficiency in any one or more of the important minerals actually results in disease. Any upset of the balance, any considerable lack of one or another element, however microscopic the body requirement may be, and we sicken, suffer, shorten our lives. . . .

[Charles Northen, MD] made an extensive study of the soil. . . . “Bear in mind,” says Dr. Northen, “that minerals are vital to human metabolism and health—and that no plant or animal can appropriate to itself any mineral which is not present in the soil upon which it feeds. . . . vitamins are complex chemical substances . . . indispensable to nutrition, and . . . [important] for the normal function of some special structure of the body. Disorder and disease result from any vitamin deficiency. It is not commonly realized, however, that . . . in the absence of minerals they [vitamins] have no function to perform. Lacking vitamins, the system can make some use of minerals, but lacking minerals, vitamins are useless. [Plus, the body, when denied minerals, absorbs toxic metals instead.] . . . Our foods vary enormously in value, and some of them aren’t worth eating. . . . For example, vegetation grown in one part of the country may assay 1,100 parts per billion of iodine, as against 20 in that grown elsewhere. . . . Some of our lands, even in a virgin state, never were well balanced in mineral content.”

We must rebuild our soils: Put back the minerals we have taken out. That sounds difficult but it isn’t. Neither is it expensive. Therein lies the short cut to better health and longer life. . . .¹⁶³

Not even a century ago, farmers planted many types of crops. Each plant extracted and returned different minerals to the soil. The soil was further enriched with natural fertilizers. With *monoculture* (single-crop agribusinesses), our soil became exhausted. Synthetic fertilizers were used, causing further imbalances.

There are many reasons to supplement.

Important Features of Supplements

Synthetic, Natural, and Food-Based

As with diet, nutritional supplementation is one of the most heatedly debated topics among health professionals and the aware public. Solid supplements are classified either in the “Synthetic Vitamins Camp” or the “Natural Vitamins Camp.” There are valid reasons to use both. First, however, let’s define some terms.

Synthetic vitamins are created in a laboratory. They are sometimes called “crystalline,” “USP,” or “pharmaceutical grade.” The crystalline powders come from a wide variety of sources (more on this in a moment), and each batch is as uniform as the last. Most of the ingredients may have been subjected to a lot of processing, which may or may not include high heat, chemical solvents, and metal salts that could contain aluminum and lead.

Not all natural vitamins are food-based—in fact, most of them aren’t. So-called natural vitamins are often subject to many different types of processing. The original source materials may have been plants; but they, too, have probably undergone a great deal of transformation. Due to this transformation, despite how they’re labeled by the manufacturers some people regard them as synthetic. At

Nutritional supplements fall into categories, although there can be considerable overlap in function among them.

- ◆ **Detoxification/Cleansing.** The body produces waste materials each day in the course of routine metabolism. Under normal conditions, the kidneys, liver and lymph work hard to eliminate these toxins and require adequate nutrients to do their jobs. When you’re experiencing physical or emotional stress, eating poorly, and/or fighting infection, the body has an even harder time eliminating toxins—which in turn creates more illness and degeneration.
- ◆ **Rebuilding and Maintaining the Body.** While under optimal conditions we need to replenish nutrients daily, our nutritional requirements escalate during illness. Eating organic food and drinking pure water are, of course, important. However, the depleted soil in which our food is grown, along with pollutants in the environment, increases our needs for nutrients even if we have a good diet. Vitamin, mineral and herbal supplements give the body what it needs so we can remain in good health even when we’re aging.
- ◆ **Direct Immune Support.** Immune cells that scavenge pathogens, foreign proteins and bodily wastes may not function well, especially during infection. An analysis of live blood under a darkfield microscope may reveal white blood cells that are sluggish or immobile from the excess waste. Sometimes there aren’t enough immune cells to do the job. Or they might not “remember” how to eliminate pathogens. Colostrum, proline-rich polypeptides, whey, herbs such as echinacea, and various vitamins, minerals and enzymes can all help support immunity.
- ◆ **Pathogen Removal.** Sometimes we need help to kill pathogens. A number of herbs and essential oils eliminate harmful microorganisms while nourishing the body.

the very least, they're in a category between food-based and highly synthesized. The late Abram Hoffer, a Canadian biochemist and psychiatrist who used nutritional therapies for schizophrenia, alcoholism and other conditions, explained on a public forum that "natural" isn't always natural. He was referring specifically to Vitamin C, but his remarks apply to any vitamin that undergoes processing more extensive than simple low-heat drying.

For years I have had patients tell me that they wanted to take only natural vitamins and no synthetics and this is after they had been taking many man made (synthetic) vitamins with success. I point out to them that scientifically the pure vitamins whether made by man (synthetic) or whether made by plants (synthetic as well but made by plants) are identical. . . . Even when nutrients such as vitamins and amino acids are extracted from plants they are no longer natural since they have been made by chemists who grind, mix, extract, purify and crystallize the products using all sorts of chemicals in order to do so, which are then sold as natural.¹⁶⁴

Food-based vitamins, which are minimally processed and fairly "natural" in the common, dictionary meaning of the word, are extracted from vegetables and fruits. The plants are dried and their indigestible fiber is removed. This produces concentrated aromatic powders that are reasonably recognizable as food-based. The powders can either be sold as is, or put into tablets and capsules. Sometimes, food-based nutrients are available as liquids.

The most effective supplements that are made from real foods are dried at exceptionally low heat so that the temperature-sensitive compounds are preserved.

Dangerous Ingredients

The vast majority of companies that manufacture synthetic vitamins use ingredients that belong in the trash and not in our bodies. They're in binders, lubricants, fillers, colorants, and the ingredients that comprise the vitamins themselves. (These substances are also routinely used in virtually every pharmaceutical.)

Binders, which hold the tablets together, often cause allergies. They can also interfere with the body's ability to absorb nutrients. Common binders include starches, sugar alcohols, cellulose, magnesium stearate, polymers (large constructed molecules, usually related to plastic), and partially or fully hydrogenated oils (especially soy). As explained earlier in this chapter, hydrogenated oils (as with all fats) become part of our cell membranes—making them stiff and full of holes, which allows toxins to enter.

Lubricants ("flow agents") coat the tablets, making them slippery so they can be more easily swallowed (while slowing the disintegration of the tablet in the stomach). Magnesium stearate is often preferred, but stearic acid and other starches and waxes may be used too (including, sometimes, carcinogenic talc). Magnesium stearate is also used during manufacture. It reduces friction between the two parts of a capsule when it's being assembled, and prevents capsules and tablets from sticking to each other or to the equipment that's producing them.

Fillers are put into tablets and capsules to take up space—otherwise, the manufacturer fears, consumers might think they're being cheated. Occasionally, fillers such as magnesium stearate (which has many functions) even appear in powder formulas. Another common filler, which adds weight to a product, is silicon dioxide, a quartz-like compound comprised of silicon and oxygen (which also forms much of Earth's crust). Silicon dioxide serves as an anticaking agent too. Vitamin and drug manufacturers equate silicon dioxide with the silicon—sometimes called "organic silica"—that's naturally found in the body and (among other benefits) strengthens immunity, restructures collagen fibers, helps bone and cartilage grow, and is anti-inflammatory. But they aren't the same. Silicon dioxide in your supplement is roughly equivalent to sand.

The safety of magnesium stearate (also called "vegetable stearate") is debated. Not a useful form of magnesium, it may coat the small intestine with a film that prevents nutrients from being absorbed. However, many helpful supplements use this ingredient. Compared to other additives, magnesium stearate may be the least harmful, especially as it's used in such minuscule amounts.

Manufacturers almost always add coloring agents to tablets—presumably to make them more appealing to consumers, to make them easy to identify, and (this is for the manufacturer's benefit) to make it difficult for other companies to copy the pills. Many colors are neurotoxins, such as FD&C Blue No. 2 Aluminum Lake and FD&C Red No. 40 Aluminum Lake (see Appendix F). Titanium dioxide, used to impart tablets with a glossy coating, is a nanoparticle powder known to cause cell damage and cancer (see **Colloidal Silver** later in this chapter).

Some synthetic vitamins contain GMOs, especially if they're made with corn or corn products: citric acid, ascorbic acid (Vitamin C), or maltodextrin and dextrose (sugars). Synthetic Vitamin C is very effective, but a source that isn't corn can be difficult to find.

Coal tar is often used to construct a vitamin. Derived from fossil fuel, coal tar causes allergic reactions and is a well known carcinogen. (It's also used as a base for colorings, preservatives and excipients, which act as

“carriers” for the intended ingredient.) The majority of synthetic vitamins are made from inedible materials. Solid mineral supplements are similarly problematic: many of them are made from oyster shell and rock, which the body cannot assimilate or utilize optimally, if at all.

It’s no accident that these inferior ingredients are so widely used because the manufacturers of synthesized nutrients are drug companies, which produce over 90% of all nutritional supplements on the market.

Co-Factors: In or Out of the Matrix

The Natural Vitamins Camp believes that vitamins, like most herbs, work best when ingested in their original matrix. Vitamins in whole foods don’t exist in isolation; but are accompanied by synergistic substances known as *co-factors* in a *matrix*—and therefore should be taken as food-based supplements only. Co-factors may include antioxidants, trace elements, enzymes, and other substances that activate the vitamin or are activated by it.

One example of a matrix vitamin is Vitamin C. In foods, Vitamin C is accompanied by bioflavonoids: rutin, quercetin, and other components. Another matrix vitamin, Vitamin E—also called *tocopherol*—actually contains *seven* types of tocopherol. The matrix housing the tocopherols includes lipositol, xanthine, and (that’s right, the mineral) selenium, all of which could be considered co-factors of Vitamin E. However, the US government defines Vitamin E as *alpha* tocopherol only, and rates it in strength according to the amount of alpha that it contains.

Does plain ascorbic acid “work”? Yes. According to many medical studies and confirmed by the Vitamin C Foundation, ascorbic acid helps protect the cells and supports a number of bodily functions. Does single-tocopherol Vitamin E “work”? To an extent. However, neither synthetic vitamin is augmented by complementary functions of other ingredients from its matrix.

The Natural Camp considers a synthetic supplement to be a drug rather than a nutrient, independent of its being made from coal tar and other unabsorbed ingredients. “A synthetic vitamin,” states the Organic Consumers Association, “can stimulate a cell’s metabolism, but it cannot upgrade or replace the cell’s components with superior, better quality elements. The results? A degraded cell. [Also,] Nature always packages vitamins in groups. The vitamins work together for better absorption. For this reason, the body responds to an isolated vitamin in the same way it responds to a toxin.”¹⁶⁵ Nutrients in isolation can indeed be an issue. When high doses of single nutrients are taken over long periods, deficiencies of other nutrients can occur. For nutrients to be balanced, all must be available to the cells at the same time.

Product Label from Pure Encapsulations®

Pure Encapsulations® brand produces excellent synthetic vitamins, which makes it popular with both professionals and laypersons. If a synthesized supplement best suits your needs, here’s a good example of what you want to see on the label.

This encapsulated product contains no hidden coatings, excipients, binders, fillers, shellacs, artificial colors or fragrance. Contains no dairy, wheat, yeast, gluten, corn, sugar, starch, soy, preservatives or hydrogenated oils.

Other ingredients [besides the nutrient itself]: hypoallergenic plant fiber, vegetable capsule.

Bioavailability, Analogues, and Molecular Shape

A *bioavailable* supplement is easily absorbed, processed, and utilized by the body. Bioavailability is based both on chemistry and also on the nutrient’s molecular shape. We will use the example of Vitamin C first for this discussion.

People tend to think of Vitamin C as a single entity. However, nutrients exist mostly as compounds, which can assume many forms. Vitamin C consists of an ascorbate ion that’s always bound to something else. That “something else” can be an alkaline mineral ascorbate such as sodium ascorbate, calcium ascorbate, magnesium ascorbate, or potassium ascorbate. It could also be the widely known ascorbic acid, otherwise known as hydrogen ascorbate. The same Vitamin C ascorbate ions are in each compound, which confers the unique benefits of the mineral to which the C ion is bound. Dr. Linus Pauling discovered that of all the four different shapes possible for a Vitamin C compound, only the L-ascorbate form—which can consist of any of these ascorbate ion compounds—is protective *and* helps the body make collagen.

A similar situation exists with Vitamin D. For the purposes of this discussion Vitamin D it has two forms: D2 (*ergocalciferol*) and the biologically compatible, easily stored, more active D3 (*cholecalciferol*). Vitamin D2 is found in some plants. Not being readily available—to such an extent that it can cause harm—D2 is a cheap (and dishonest) way to “fortify” foods so consumers think they’re receiving something of value. Vitamin D3 is found in certain fish, cod liver oil, and dairy. It’s also made by the skin if the host has sufficient exposure to sunlight’s beneficial ultraviolet wavelengths (UV-B).

The molecular structures of various types of the same vitamin (including those made from coal tar) can denote huge differences, even if the structural variations appear slight. A vitamin that’s not bioavailable may contain the

Royal Lee and the FDA

Like his colleague Royal Raymond Rife, Royal Lee was a resourceful inventor (who shared the same unusual first name). He filed over one hundred patents for various electronic equipment (among them the phonocardiograph, and a governor for electric motors). He devised advanced weapons control systems during World War II, assisting NASA with his motor control design for their lunar guidance systems. However, Lee's most enduring and important legacy was for peace, not war: his many devices to extract the nutrients from whole foods without disturbing their molecular structure or energetic integrity. With these inventions, he founded Standard Process, a nutritional supplement company that created high quality products from organically produced vegetables, fruits, nuts, grains, and occasionally animals. "Dr. Lee," one health writer reports, "once said that it took him longer to develop a nutritional formula than to come up with one of his electrical inventions. This was due to the complexity of factors already present in nature. . . . Because Dr. Lee insisted that foods were therapeutic, he was always in court, fighting the FDA which insisted that only drugs could be called therapeutic."¹⁶⁶ One of Lee's most vociferous opponents was AMA publicist Morris Fishbein, who had also persecuted Rife and was pivotal in ruining his career. In *Medical Mussolini*, published in 1939, Morris Bealle recounts, in impassioned (if quaint) language:

Another interesting case is that of the Vitamin Products Company of Milwaukee [now Standard Process], owned by Dr. Royal Lee. This concern manufactures and distributes concentrated or "dried" vitamins—those vitally necessary food elements which "civilized" man cooks or processes out of the whole foods nature gives us. In my own family I have positive evidence of the value of Catalyn®, which is . . . [the primary whole food supplement and the best selling of all] the Lee products.

Dr. Lee was one of those "hardy" souls who refused to pay \$30,000 or any other sum for a "test" of his product. As a result he was made an active member of the Fishbein blacklist. He even rated an excommunication in the *Journal of the AMA*.

In a letter to an inquirer Mr. Fishbein overstepped himself. While unqualifiedly branding the proven product Catalyn® as "a crude piece of quackery," he made the amazing admission that neither he nor his Association have ever made an investigation or chemical analysis of the product. However, his stooges in the Food and Drug Administration made what Dr. Lee describes as an "amateur's test." In a letter to another inquirer, an official of the FDA claimed that a "recent analysis of the preparation showed it consisted essentially of starch, bran, yeast, [natural] sugar and oil." Even this analysis—if it can be called such—showed entire absence of harmful substances, which is the only thing the Food and Drug Administration is supposed to protect the public from. [This was before the law was changed in 1962.]

Dr. Lee points out that a vitamin product can only be tested by a biological or clinical test—not by a microscopic and chemical analysis such as Fishbein's "expert" stooges in the Food and Drug Administration used in aiding him to club off the market an independent manufacturer.¹⁶⁷

same number of carbon atoms as its natural counterpart. But *where* those atoms appear on the molecule can have huge ramifications in a living body. With Vitamins D3 and D2, one must carefully study their diagrams to spot the difference between them. Even the presence or absence of one tiny line, which indicates the displacement of just a single molecular bond, reflects the difference between D3's bioavailability and D2's harm.

Some specifically synthetic vitamins—whose molecular structure makes them similar, but not identical, to their naturally occurring counterparts—are *analogues*. Analogues occupy the receptor sites that ordinarily would accommodate the genuine article. If an analogue usurps enough available receptor site space, it prevents the real vitamin from latching onto the sites and doing its job. One example is synthetic Vitamin E. The synthetic molecule is d-l-alpha-tocopherol, while the naturally occurring molecule is d-alpha-tocopherol (without the "l"). A study,

published in 1998 in *The American Journal of Clinical Nutrition*, found that natural Vitamin E is two times more bioavailable than its synthetic counterpart.¹⁶⁸ One naturopath points out, "Synthetic Vitamin E is made from . . . [chemically synthesized] turpentine. The human body [was not designed] with receptor sites for synthetic products, especially one whose precursor is paint thinner!"¹⁶⁹

(Interestingly, while most nutrient analogues are from synthetic sources, some do exist in food. For example, most seaweeds contain Vitamin B12 analogues that prevent the genuine, usable B12 from occupying its cell receptor sites. Seaweeds contain many valuable nutrients, so if you eat them regularly, take a B12 supplement or eat plenty of red meat several hours away from ingesting the seaweed.)

To the Synthetic Camp, it's not important if a vitamin is an analogue. To the Natural Camp, this fact is significant. In my opinion, bioavailability should matter to everyone.

The Quality of Light

There's one more crucial difference between natural and synthetic vitamins: the energy that they emit on various levels. Although this might at first seem a bit esoteric, it's a real, proven phenomenon that is scientifically measurable.

Discoveries about the energy of nutritional supplements were first made in the 1930s by an American dentist named Royal Lee (who, by the way, was a supporter of Royal Raymond Rife). With the aid of a spectrograph, Dr. Lee assessed foods, food-based nutritional supplements, and synthetic vitamins. The *spectrograph*—first invented in 1876 and today also called a *spectroscope*—is an instrument that separates and measures the wavelengths that are present in the electromagnetic radiation that objects always emit. The wavelengths can be infrared, radio frequency waves, visible light (to name just a few types), which are all part of the electromagnetic spectrum. When analyzing visible light, the spectrograph disperses it into its component wavelengths—in other words, colors. Spectrography can also detect and measure the electromagnetic fields emitted by protons, electrons, and other charged particles in atoms. Charged particles rotate in diverse directions, depending on the substance; and different movements release different wavelengths on the electromagnetic spectrum. All of these electromagnetic emissions are used as a guide to identify the substance. (See Appendix C for more information on the electromagnetic spectrum and its different wavelengths.)

You may recall from Chapter 2 that Royal Rife could see microorganisms through his Universal Microscope because of the way they refracted light (their wavelength). A wavelength or frequency is part of the vibrational signature of an organism. Everything in the world—whether it's a microorganism, person, plant, or vitamin—expresses itself as wavelengths.

As it turns out, Dr. Lee discovered that food grade and coal-tar-fabricated supplements refract light differently. These emissions also correspond to the differences in the molecular structures of synthetic and food-based vitamins, which are often the mirror image of each other. Lee also found that synthetic and food-based supplements possess opposite electrical polarities. A veterinarian explains:

This issue [of polarities] relates to the rotation of the organic molecule. In its natural form the vitamin has a right or left handed rotation. The body's receptors are configured to bind with this specific rotational configuration so that the proper rotation is capable of properly interacting with the appropriate biochemical processes. Vitamins synthesized in a laboratory contain both a right and left handed rotation. The proper rotational

configuration can bind to the appropriate receptor sites while the opposite rotation can not. Therefore only the proper rotation is therapeutically useful as a vitamin. Further, it has been discussed relative to the pharmaceutical industry that drugs are a mixture of both right and left rotations. Only one rotation is clinically useful while *the opposite rotation is associated with the negative side effects of the drugs*. Since synthetic vitamins must be considered drugs we must therefore assume that at least some of the toxic effects of synthetic vitamins are related to this same phenomenon. [emphasis added]¹⁷⁰

Variations in the chemistry of presumably similar vitamins, then, reflect their energetic differences. At one time, Standard Process (the nutritional supplement company that Lee founded) published a spectrographic set of color photos of Vitamin C in its various forms. The photos depicted vitamins synthesized in a lab as well as Standard Process's own food-based supplements. Also photographed were the emissions from fresh oranges and pasteurized orange juice from concentrate. Each photo was different. The one labeled "natural Vitamin C" was much more vibrantly orange, and radiated more symmetrical lines (we must assume, representing life force) than the photo labeled "synthetic ascorbic acid." Even if synthetic and food based ascorbic acid are chemically identical, how important are the other factors? For whom? And when?

A few years ago some salt water fish were brought to a London aquarium, but there was only a small amount of sea water there which was insufficient for the needs of the fish. One of the curators said that he could make sea water, as its formula was well-known. So he got out the book, assembled the ingredients and made a batch of sea water: But when they placed a fish in the water it soon died. Three or four times the curator made sea water, being more careful each time, but the fish that went into the tank, died in every case. There was one smart curator there, who had a brainstorm. Let us take this last batch of artificially-made sea water and put it into the tiniest bit of real sea water. When they did that, the fish could live in it. Evidently in real sea water there is a gleam of some substance which is too tiny to measure and which, therefore, is not in the published formula for sea water, but which is needed by fish in order to live.

—Royal Lee, DDS
inventor, nutritionist, and founder of
Standard Process nutritional supplement company
"The Truth About Vitamins"
(1895–1967)

Standardized Amounts

The Synthetic Vitamins Camp points out, correctly, that it's much easier to standardize dosages or amounts of synthetic vitamins than food-based vitamins. The same species of plants grown in different locations don't always contain the equivalent nutrients or amounts, because the soils and climates in which they're raised, and even the seasons and times of day during which they're picked, can cause significant variations. This creates a problem with food-based supplements: You can't always be sure that you're getting the desired amounts of nutrients. However, weights and amounts can be precisely calibrated in a lab.

Many people are surprised to know that US law requires the manufacturers of *all* vitamins, even food-based ones, to put at least some amount of laboratory-synthesized vitamins into their products. This is done to increase their potency and/or stability, and especially to standardize the amount of nutrients per capsule, tablet or batch. The doses must be consistent; otherwise, the product labels would be meaningless and people wouldn't know how much of each nutrient they're getting. When you're dealing with a deficiency especially, it's critical to know exactly what, and how much, you are ingesting. Therefore, every food-based supplement that's legally sold, which states "this bottle contains this amount of such-and-such," has added a nutrient created in a lab.

Don't be fooled by the word "natural." As Dr. Hoffer once posted, this "is a play on words and allows the producers to charge more for the item. If natural vitamin C products contained 90% synthetic ascorbic acid and they add 10% dried rose hips powder, this allows the label to use the word 'natural'; but the honest manufacturer will in small letters at the bottom add 'plus ascorbic acid.'" ¹⁷¹

Even though most (or all) food-based supplements contain added synthetic vitamins and/or minerals, these amounts are minimal. They don't substantially affect the living quality of the rest of the nutrients, and are unlikely to hurt you.

Fat-Soluble or Water-Soluble

Vitamins are dispersed by either water or fats. Fat-soluble vitamins (A, D, and K) remain in the fatty tissue for long periods, while water-soluble vitamins (B-complex and C) are excreted in the urine if the body doesn't use them immediately. Therefore, they must be replaced daily. Even with storage of a fat-soluble vitamin, though, you may still need high amounts. For instance, a naturopath told me that many of her clients with liver damage had a deficiency in Vitamin A. In this case, for a circumscribed period of time, taking more than what's considered the maximum dose is just what they needed. Then there was a woman I knew who had suffered excessive respiratory

problems for an entire year. Each day, she took many hundreds of times the recommended daily dose of Vitamin A because it helped her. When she decreased the amount, her respiratory symptoms came back. Obviously, her body needed all that Vitamin A that she was taking; otherwise, she would have manifested symptoms of excess. Regarding water-soluble vitamins, some sources have reported that too much ascorbic acid can concentrate and recrystallize in the urine, forming sharp little ascorbic acid spikes that irritate the delicate membranes and cause urinary tract infections. I have no way of verifying whether or not this is true. My point is, anything can be consumed in excess; so check with your health care provider if you have questions about the amounts of supplements that you're taking.

Minimum Daily Requirements

How much of a given nutrient do we need daily? The FDA has set standards for "minimum daily requirements" and "maximum daily requirements." But when offering recommendations, the US government generally applies the amounts needed by chicks, rats or rabbits to human beings. Even if it did not, our depleted soil and polluted world render these guidelines meaningless—and even harmful, if people believe what they are told.

Brian Clement, author of *The Vitamin Myth*, states:

Taking synthetic vitamins in milligram quantities is related to the RDA's (Recommended Daily Allowance) or the more modern RDI's (Recommended Daily Intake), but this still does not actually relate to potency because potency of a vitamin has to do with its effectiveness and assimilation not its weight. Weight and potency, in this case, are two different things. Naturally occurring whole complexed vitamins from foods created by nature are more "potent" per milligram than synthetic fractions of those vitamins because it is the whole, real vitamin that the body requires, not a synthetic chemical substitute of a fraction of a vitamin . . . So, the quantity of vitamin milligrams is not as important as the quality of the vitamin milligrams. Many vitamin supplement brands play the "milligram game" which is often confusing to the consumer. The idea of "more is better" works fine for some things, but not for toxic synthetics. . . . The important first question should be whether or not the vitamin is natural . . . and not how many milligrams are available. . . . You get more nutrition from a lower number of milligrams when the vitamin is a whole naturally occurring complex from real food. ¹⁷²

Nutrient Conversion: Beta-Carotene, Folic Acid, and Other Lies

The Lie, in One Sentence

People are often told that two different forms of a vitamin, or even different substances, are equivalent to each other and are interchangeable—when they're not.

Vitamin A vs. Beta-Carotene (Active vs. Inactive)

Beta-carotene is a member of the carotenoid family—naturally occurring red, orange and yellow pigments in plants that give some fruits and vegetables (such as carrots) their vibrant colors, and which make green leaves even darker (the green chlorophyll masks the reddish pigments). Beta-carotene exists only in plants.

A related but not identical nutrient, Vitamin A, is a generic term for a number of fat-soluble retinoid compounds (retinol, retinal, retinoic acid and others) obtained solely from animal products: meats (especially liver), egg yolks, raw grass fed dairy (especially butter and cheese), fish, chicken, and turkey. Vitamin A is used to maintain many body functions, including good vision, lubrication of mucous membranes, strong hair and nails, optimal development of the teeth and bones, a strong immune function, the proper formation of proteins, clear skin, and normal cell growth. This vitamin is so important that a deficiency can cause birth defects. Like beta-carotene, Vitamin A can also act as an antioxidant, which helps protect cells from damage caused by free radicals. Most Vitamin A is stored in the liver. Because 5% of the body's stores are used each day, the vitamin must be replaced on a regular basis.

Once ingested, beta-carotene can be converted into Vitamin A. However, many scientific studies show that this conversion is impaired to some extent in almost half the population. For people with exceptionally severe impairment, the conversion rate fails between 70% and 90%. Even when the amount of beta-carotene in the bloodstream triples in conversion-impaired people, there is no rise in Vitamin A levels. The conversion mechanism is unknown, but scientists do know that people with hypothyroidism have a very difficult time converting. Beta-carotene is a *precursor* to Vitamin A.

Even in those who can convert beta-carotene into Vitamin A, the benefits are not optimal. According to the Food and Nutrition Board of the Institute of Medicine, every 12 mg of beta-carotene that's ingested yields the equivalent of only 1 mg of Vitamin A.

Vegetarians often promote beta-carotene instead of Vitamin A—undoubtedly because they don't want people eating animals to obtain their nutrients. But to claim that these two substances are identical, and that it doesn't matter what form you use, is simply untrue.

Vitamin B12: ***Methylcobalamin vs. Cyanocobalamin*** (Active vs. Inactive)

For the purposes of this discussion, there are two main forms of Vitamin B12. *Methylcobalamin* naturally exists only in animal products—particularly shellfish, finned fish, beef liver, red meats, raw dairy (including whey), eggs, and poultry, although nutritional yeast contains a little bit as well. This form is bioavailable to a living body (unless the person has some unusual problems). *Cyanocobalamin* doesn't exist any place except in a laboratory. A completely synthetic preparation, it must be manufactured. Not surprisingly, the synthetic form is more commonly used in nutritional supplements because it's cheap and easier to obtain. But there is a world of difference between the two—both in their molecular structure and in how they affect the body. (Hydroxocobalamin—a synthetic, usually injectable form of Vitamin B12—is occasionally used by health professionals for some conditions such as methylfolate excess, but it's rare, so will not be discussed here.)

The chemical difference between the real (methyl) and fake (cyano) forms of B12 can be seen in a portion of the molecule. *Methylcobalamin* contains a *methyl* group (carbon and hydrogen). *Cyanocobalamin* contains a *cyanide* group. Cyanide is a poison in large enough quantities. Although the amount of cyanide in fake B12 is minuscule and fairly harmless, it must still be excreted from the system. People who are ill don't need this extra burden of eliminating yet one more toxin.

Even more important, in most people the methyl (real) form is better absorbed than its counterpart. It remains in the body for a longer period of time. It benefits the vision, whereas the cyano (fake) form does not. Moreover, the fake form of B12 is *inactive*. It must be converted by the body—via a complicated, multi-step process—into the real, *active* form of B12 in order to be utilized. Not everyone can make this conversion.

Methylcobalamin has many uses. It's a potent antioxidant. It's used extensively by the liver, brain, and nervous system. It's needed for the synthesis and secretion of the sleep hormone melatonin, which helps normalize circadian rhythms (the 24-hour clock), improves the quality of sleep, and lessens the amount of sleep that's needed. This real B12 also works synergistically with real Vitamin B6 to metabolize homocysteine. When B12 levels in the body become low, a toxic amino acid called homocysteine builds up. (High homocysteine levels have been linked to an increased risk of Alzheimer's, heart diseases, chronic fatigue syndrome, fibromyalgia, and Multiple Sclerosis.) Only real B12—

along with another B vitamin, methylfolate (or B9, next column)—is capable of converting this undesirable homocysteine into beneficial methionine.

A B12 deficiency can be experienced as numbness, tingling, burning, lessened or complete loss of sensation, chest and nerve pain, muscle cramping, confusion, memory loss, and slow reflexes. Methyl B12 is best absorbed in the small intestine, so supplementing with probiotics and/or taking B12 sublingually or via injection, is often suggested by experienced holistic practitioners. Estimates show that about 40% of the population is deficient in B12!

Remember the prefix “methyl” in *methylcobalamin*. That “methyl” is critical to understanding how the body works and knowing the best nutrients to give it.

Vitamin B6:

Pyridoxal 5-Phosphate (P-5-P) vs. Pyridoxine HCl (Active vs. Inactive)

There are several forms of Vitamin B6, but the two most well known are Pyridoxal 5-Phosphate (also known by its abbreviation, P-5-P) and pyridoxine (also called pyridoxine HCL). P-5-P is biocompatible with a living body, well absorbed and ready to work immediately—the substance that the body actually uses for at least 100 different chemical reactions per minute. Pyridoxine, the easy-to-make, cheap B6 that’s put into most supplements, is not biocompatible. It must be converted into P-5-P by the liver (with the help of enzymes that require Vitamin B2, zinc and magnesium) before it can be active in the body. Not surprisingly, some people cannot make this conversion well, if at all, especially if the liver is already burdened. Also not surprisingly, the active Pyridoxal 5-Phosphate is ten times more effective than pyridoxine. In unsuccessful or inefficient converters, high doses of the fake B6 can cause numerous problems, including numbness and tingling in the arms and legs.

Among other functions, Vitamin B6 is needed for the metabolism of amino acids and carbohydrates, the synthesis of heme (the iron-containing portion of red blood cells that carries oxygen), the creation of neurotransmitters (including serotonin, dopamine and GABA), the formation of collagen, proper immune function, efficient digestion, and the reduction of inflammation. Deficiency symptoms include nervousness and depression, fatigue, skin problems, abnormal sensitivity to sound, water retention, impaired immune function, nausea and vomiting, muscular weakness, low blood sugar, and susceptibility to injury. A P-5-P deficiency also leads to decreased Vitamin B12 absorption and elevated homocysteine levels.

Anyone can be susceptible to a P-5-P deficiency: infants, pregnant and nursing mothers, the elderly, vegans and vegetarians, people with a poor diet, and

women taking synthetic estrogen in the form of oral contraceptive pills or hormone replacement therapy. Pyridoxal 5-Phosphate is the only form of B6 that gestating and newborn babies can use. Studies show that if fake B6 is given to premature babies—who are more susceptible than full-term infants to SIDS (Sudden Infant Death Syndrome)—irreversible central nervous system damage can result. The real Vitamin B6 works synergistically with the real Vitamin B12 to metabolize homocysteine into methionine (discussed next).

Vitamin B6 cannot be made by the body. It must be obtained from either food or nutritional supplements. An eclectic assortment of foods contains B6: sunflower seeds, pistachio nuts, sweet potatoes, tuna, salmon, poultry, white potatoes, prunes, beef, bananas, pork, avocados, and spinach.

For many people, supplementing with Vitamin B6 is necessary even if their diet includes the above foods. The reason for this is explained directly below. When taking a nutritional supplement, make sure the label reads “Pyridoxal 5-Phosphate” or “P-5-P.” It makes absolutely no sense for anyone to take inactive pyridoxine, which is the fake, unavailable form of B6.

Vitamin B9:

Methylfolate vs. Folate vs. Folic Acid (Active vs. Conditionally Active vs. Inactive)

The Differences. Technically, both folic acid and folate are Vitamin B9, although this name is rarely used. Although used interchangeably—in language usage as well as nutritionally—there are significant differences between them. Folate is naturally occurring in foods, and folic acid is synthetic. I’ll get to methylfolate (the ultimate and best utilized form of folate) in a moment.

Folate, first discovered in green leafy vegetables, was named after the word “foliage.” Vegetables and fruits rich in this nutrient include spinach, kale, beet greens, citrus fruits, tomatoes, avocados, bananas, asparagus, turnips, broccoli, carrots, cantaloupe, and Swiss chard. Black-eyed peas, and pinto, navy, kidney and lima beans also contain folate, as do many whole grains. However, some animal foods, such as beef, lamb, chicken and salmon, and the organ meats liver and kidney, are also very high in folate.

Folate is rightly regarded as a primary nutrient for the brain. It plays a key role in the synthesis of certain biochemicals that allow critical biological functions to occur. Some of the biochemicals that folate helps produce are brain *neurotransmitters*, which govern virtually everything related to the brain: learning, cognition, behavior, memory, sleep, muscle movement, mood, and emotions. When folate levels are low, neurotransmitter levels are low. Depending on which neurotransmitter is low or absent, this can result in

anxiety, depression, irritability, confusion, memory loss, insomnia, addictions, abnormal mood swings, learning disorders, mania, and more.

For decades, folic acid has been put into nutritional supplements because it's cheap and easy to manufacture. Pregnant women are commonly advised to take supplemental folic acid to prevent birth defects. If the fetus lacks folate, it might have missing parts of the brain, missing or incompletely formed skull bones, or the lack of closure of the spinal column. It's laudable that a deficiency condition is recognized by even mainstream medicine—but is the answer to this potential defect really folic acid supplementation? No! If a vitamin supplement label reads “folic acid,” the body is being given a biologically incompatible chemical that may be difficult (if not impossible) to convert to a usable form.

Is the solution, then, to take folate? No again! There's an additional, somewhat complicated piece to this situation. Even if natural folate is taken—either from foods (such as leafy greens) or in supplement form (the label will read “folate”)—the body may still have a difficult time utilizing it. This is because folate (either from the diet or from a food-based supplement) must always be converted by the body into the *methyltetrahydrofolate* form (sometimes called *5-methyltetrahydrofolate* or simply *methylfolate*). This is what the body actually ends up using because it's bioactive. But sometimes the body can't create this form, no matter how good the raw materials are.

The MTHFR Malfunction. Researchers have found that nearly half of the population cannot convert *either* folic acid *or* folate into methyltetrahydrofolate. These individuals carry, from birth, one or two gene mutations. A copy of this mutation from one parent reduces the ability to convert either folic acid or folate to methyl folate by 40%. A copy from both parents reduces this conversion ability by 70%. Even in those who are able to make the conversion, aging makes the conversion increasingly difficult.

The gene mutation that's responsible for this conversion malfunction is *methylenetetrahydrofolate reductase polymorphisms*, called simply *MTHFR*. These initials are also used to describe what this mutation does. I will explain it as simply as possible:

- ◆ *Methylenetetrahydrofolate reductase (NAD(P)H)*—or its shorter and more commonly used name, *methylenetetrahydrofolate reductase*—is the name of the *enzyme* that converts both dietary folate and synthetic folic acid into the biocompatible end product nutrient *methyltetrahydrofolate* (*5-methyltetrahydrofolate* or *methylfolate*) that the body actually uses.

- ◆ The enzyme that transforms folate and folic acid into the usable, biocompatible methylfolate form is created by what is known as the *MTHFR* gene.
- ◆ Half the population suffers from an error in the DNA of the *MTHFR* gene. This error is called a *polymorphism*, which in this context means an *undesirable dual shape*. The altered shape of the *MTHFR* gene causes the production of a misshapen enzyme. This alteration in the enzyme's shape means that the enzyme's function is either impaired or the enzyme is completely inactive.
- ◆ As a result of this misshapen enzyme mutation, the final product—methylfolate—cannot be produced. Without this ability to process a vital nutrient and use it to create critical biochemicals, people with the *MTHFR* mutation generally lead poor quality lives and suffer from many more chronic and infectious diseases than their counterparts who do not have this mutation.

The Methylation Cycle and MTHFR Health Issues.

What are some of the health challenges that arise from the *MTHFR* malfunction? Naturopath Ben Lynch, who has extensively researched (and treats) the *MTHFR* disorder, relays a dizzying list of conditions on his website, *mthfr.net*. Besides cancer, he mentions pulmonary embolisms, fibromyalgia, autism, asthma, schizophrenia, severe depression, infertility, miscarriages, and even cleft palate. These symptoms may seem unrelated, but once you understand how methylfolate works in the body and the amazing number of functions for which it's responsible, the list makes a great deal of sense. I have already mentioned that methylfolate helps create valuable brain neurotransmitters. But, as its name suggests, methylfolate also plays a major role in the complex array of biochemical processes called methylation.

Simply put, *methylation* is a process whereby small chemical compounds critical to health are moved around in the body to where they are needed, for the purpose of generating specific reactions. The *methyl group* under discussion here consists of a single carbon and three hydrogen groups.

Sometimes, health practitioners use the phrase *methylation pathway* or *methylation cycle*. This is a biochemical process that directly manages, or contributes to the management of, a broad range of bodily functions, after the pathway is catalyzed by an enzyme. Methylation occurs at the DNA level. Some of the functions involved with methylation include energy production, immune function, detoxification, inflammation control, and mood balancing.

Many things can go wrong during methylation. For instance, with a process involving nine steps of

biochemical reactions, the first four might be activated correctly. But then the fifth step might not occur, which skews the subsequent reactions. Or, the timing might be off. All of the steps might take place correctly, but in the wrong order: one, two, three, four, seven, five, twelve, etc. Biochemistry is like baking a cake. Add an ingredient at the wrong time, fail to blend it well, or heat it at the wrong temperature, and you get poor results (and an inedible cake). Enzymatic reactions require a precise sequence of specific biochemicals, which are designed to interact with each other at a specific time. If the sequence, biochemicals, or timing are off, you won't get the desired results.

Substitute the phrase "methylation cycle" with "proper enzyme function," and you'll have a clear idea of what can go wrong. People whose diets are poor, who are under constant or high levels of stress, and who don't get enough sleep, all have methylation difficulties. Impairment in the methylation pathways directly impacts immune function, which in turn gradually impacts the function of various organ and endocrine systems. The kidneys, pancreas and adrenals—and their corresponding tasks of toxin and mineral filtration, insulin production and abnormal cortisol levels—malfunction over time. And that's just the beginning. Without the ability to methylate properly, one cannot make glutathione, which helps the liver detoxify toxic substances. There will be problems converting the thyroid hormone thyroxine (T4) into liothyronine (T3), which is the form of the hormone that actually gets into the cells where it's needed. And the body will have difficulty repairing and regenerating tissues.

One job of methylfolate in methylation is to help convert the inflammatory compound homocysteine into beneficial *s-adenosylmethionine*—popularly known as SAME. SAME helps regulate more than 200 enzymes in the body. When these enzymes are working properly due to adequate SAME levels, so does the body. The DNA is protected against damage from pathogens, heavy metals and solvents.

With adequate SAME, there is also less inflammation in the body and better immune function. This is because the SAME that's produced during methylation helps break down histamine. *Histamine* is a compound involved in immune and inflammatory responses. It's produced by the body in response to a foreign substance that the body perceives as an invader. An invader can be a pathogen, the toxic wastes produced by that pathogen, a particle of protein in other types of waste, or (if the body isn't working correctly) even a food. It's histamine's job to make the capillaries more permeable so that white blood cells can flow to the afflicted tissues. While some histamine is helpful—you want white blood cells to easily reach a targeted area

so pathogens can be neutralized and eliminated—too much histamine can cause flu-like or allergy symptoms, such as sneezing, hives, and a runny nose. You want histamine to be produced and utilized under the proper conditions, not for every particle of protein (such as food) that the body *mistakenly* perceives as an invader. (Hence, the development of *anti-histamine* drugs, which help alleviate the symptoms of itchy eyes, copious mucus flow, rash, etc.) If there's not enough methylfolate in the body to produce SAME, there will be too much histamine in the blood.

Again, inadequate amounts of SAME means an impairment or outright halting of methylation. The methyl group, consisting of the single carbon and three hydrogens, won't be present to attach themselves to enzymes and give them accurate instructions.

The methyl group donated by SAME to important enzymes also helps produce a substance called *phosphatidylcholine*. Phosphatidylcholine is critical to the brain and nervous system. It gets incorporated into the structure of the cell membranes. (A strong cell membrane allows nutrients into the cell and encourages the removal of wastes, whereas a weak cell membrane invites toxins in rather than nutrients.)

Phosphatidylcholine is also a source of *choline*, which the body uses to transport fat out of the liver, and to synthesize the neurotransmitter *acetylcholine*.

So, decreased levels of SAME also mean a deficit of phosphatidylcholine, which means a clogged liver, and hence a less efficient transformation of toxins. A deficit of phosphatidylcholine—"brain food"—is the reason for increased risks of autism and Down syndrome.

We must consider yet another factor in this complex scenario: how well the thyroid is functioning. Dr. Lynch has observed that people with hypothyroidism (thyroid underactivity) tend to have sluggish MTHFR enzymes, even if they do not have the genetically-based MTHFR polymorphism. This is because the thyroid hormone thyroxine helps produce the active form of Vitamin B2, *FAD* (acronym for *flavin adenine dinucleotide*). The body cannot use Vitamin B2 at all unless thyroxine converts it into *active FAD*. Not surprisingly, the MTHFR enzyme must have plenty of FAD in order to function. If thyroxine levels are low because a sluggish thyroid is not making enough thyroxine, the MTHFR enzyme will be sluggish too. This leads to low methylfolate levels. As we have seen, low methylfolate levels equals low SAME levels—and all the health problems just described.

One more piece of this thyroid puzzle is that methylfolate is also needed to help convert tyrosine into active thyroid hormone. Because an estimated 50% of the population is hypothyroid (underactive), this makes the methylfolate issue even worse! All of these factors point to an even greater need to pay attention to

thyroid function. In the United States, it's common to get a prescription for natural thyroid supplementation from a medical doctor. In Europe, it's more common to first fix the adrenals (which often fixes thyroid sluggishness), and supplement with nutrients. Dr. Richard Loyd has found that eliminating pathogens (especially parasites) may make adrenal support unnecessary.

The last problem from faulty MTHFR function is the buildup in the bloodstream of *homocysteine*—a peculiar compound that must be converted by the body into more useful biochemicals. Normally, homocysteine is converted into *methionine* (an essential amino acid) or *cysteine* (another amino acid), with the excess excreted in the urine. This conversion is done with the help of (the real) Vitamins B6 and B12. Among other functions, methionine is used by the body to make proteins, convert one form of estrogen into a more usable form, help the liver process fats, reduce inflammation, and utilize antioxidants. Also, methionine is converted by the liver into SAME. However, with a malfunctioning MTHFR, elevated levels of homocysteine build up in the blood. This leads to increased risk of cardiovascular problems (including coronary heart disease, arteriosclerosis and high blood pressure), and a higher probability of dementia, mental retardation and seizures—not to mention all the aforementioned problems that arise when not enough SAME is present.

Correct Supplementation for Methylation Issues.

Below is a compilation of suggestions from methylation doctors, including Ben Lynch and Amy Yasko, to correct the MTHFR methylation problem.

People with any MTHFR issue should *not* take folic acid. Like a stranger looming at your front door and preventing you from stepping inside your house, folic acid attaches to the receptor sites of cell membranes and blocks the beneficial methylfolate from entering the cell. High levels of the toxic folic acid will remain in the blood of an MTHFR individual.

Folate—whether as a nutritional supplement or food—is not advisable either, because the folate is not easily converted. This doesn't mean that you should avoid leafy greens, though; they contain many valuable nutrients and fiber. But for those with MTHFR mutations, even ingesting too much “natural folate” from food can be detrimental unless the end forms of other nutrients (including methylfolate) are taken.

To bypass MTHFR problems, some supplements provide the *end product* of the conversion process: 5-methyltetrahydrofolate or methyltetrahydrofolate, also simply called methylfolate. This is usually taken with two other B Vitamins, which help the body utilize it properly and offer protection from potential toxicities. General dose guidelines from Lynch and Loyd are:

- ◆ (a) 1 mg (1000 mcg) of methyltetrahydrofolate in the morning. The label should read, “5-MTHF,” “5-Methyltetrahydrofolate,” “Methylfolate,” or perhaps “Metafolin®.” (Loyd finds that about 30% of his clients need this extra methylfolate.) Signs of too much methylfolate include headache, migraines, palpitations, muscle and joint pain, and rashes, and sometimes raised norepinephrine levels that cause insomnia, depression, irritability, and anxiety. To reverse methylfolate toxicity, take 50–100 mg of time-release niacin. (Excess methylfolate means more SAME. SAME breaks down niacin, so the excess SAME will be quenched if you take niacin.) Take 250 to 500 mg of curcumin to quench inflammation. Some people also take 2 mg of hydroxocobalamin.
- ◆ (b) 3 mg (3000 mcg) of *active* Vitamin B12, in the morning. The label should read, “Methylcobalamin.” Real Vitamin B12 works synergistically with real Vitamin B6 to metabolize homocysteine into methionine.
- ◆ (c) 50–100 mg of *active* B6, in the morning. The label should read, “Pyridoxal 5-Phosphate” or “P-5-P.” Real Vitamin B6 works synergistically with real Vitamin B12 to metabolize homocysteine into methionine. It also helps the body neutralize and excrete any excess folate *and* folic acid that might be in the body. Not everyone requires this, so consult a practitioner.

Other Protocols for Proper Methylation. A healthy diet is mandatory. Good fats include coconut, avocados, olive oil, raw grass fed butter (if tolerated), and especially the fats in pastured eggs and grass-fed beef. Gluten impairs folate conversion, thus robbing the body of energy.

Some practitioners advise glutathione and probiotic supplementation, along with antioxidant, adaptogenic herbs such as rhodiola, ashwagandha and holy basil. *Adaptogenic* herbs don't stimulate or suppress, but rather, regulate and normalize. Activity that's too low is raised, and activity that's too high is lowered.

Adequate sleep, stress reduction, and moderate exercise are advised, as are thyroid and adrenal support. Evidence also suggests that Lyme disease plays a role, and that once Lyme is eliminated in an infected person, folate conversion will no longer be an issue.

Some laboratory blood tests detect unmetabolized folic acid. However, many people can determine through empirical observation that the unpleasant symptoms they are experiencing are due to an inability to produce methylfolate. Nearly half of the population has MTHFR issues, so there's a 50% chance that you, or someone you know, has this conversion malfunction. If you take methylfolate and its co-nutrients and you feel better, then you are right.

Nevertheless, while whole food supplements may be better theoretically, sometimes synthetic nutrients are preferable—especially for deficiencies that have been occurring over a long period. A few brands of good synthetic supplements are made with safe ingredients. If you have a serious health problem and suspect nutritional deficiencies, consult a holistically-oriented nutritionist, osteopath, naturopath, or other practitioner to help you devise a custom protocol. Some chiropractors have special training in nutrition and muscle testing, and can tell you instantly in the office what you need, and how much.

Conversion Difficulties

A surprisingly large number of people have genetic errors (or, more euphemistically, “variations”) that prevent them from converting certain nutrients, even those in foods, into what the cells can actually metabolize. The prior Insert, “Nutrient Conversion: Beta-Carotene, Folic Acid, and Other Lies,” gives examples of some vitamins that are completely, partially, or not at all bioavailable.

There’s one genetic quirk that all humans share, however: the inability to produce Vitamin C in the body. A 2003 *Nutrition Journal* article explains.

Ascorbic acid is widely distributed in fresh fruits and vegetables. It is present in fruits like orange, lemons, grapefruit, watermelon, papaya, strawberries, cantaloupe, mango, pineapple, raspberries and cherries. It is also found in green leafy vegetables, tomatoes, broccoli, green and red peppers, cauliflower and cabbage.

Most of the plants and animals synthesize ascorbic acid from D-glucose or D-galactose. A majority of animals produce relatively high levels of ascorbic acid from glucose in [their] liver.

However, guinea pigs, fruit eating bats, apes and humans can not synthesize ascorbic acid due to the absence of the enzyme L-gulonolactone oxidase. [The gene in humans to produce this enzyme is non-functional.] Hence, in humans ascorbic acid has to be supplemented through food and or as tablets. . . . Synthetic ascorbic acid is available in a wide variety of supplements viz., tablets, capsules, chewable tablets, crystalline powder, effervescent tablets and liquid form. . . . There is no scientific evidence to show that even very large doses of vitamin C are toxic or exert serious adverse health effects.¹⁷³

Animals whose bodies possess the enzyme to produce ascorbic acid, do so at the rate of 250 mg to 500 mg

per hour, every day. These animals aren’t susceptible to scurvy, anaphylactic shock, pulmonary tuberculosis, viral leukemia, and other conditions. But humans (and primates and guinea pigs), who cannot produce ascorbic acid in their bodies, are. To get enough ascorbic acid comparable to the serum levels in other species—enough to avoid illness—we must ingest it.

The Natural Camp believes that if Vitamin C is ingested in whole foods (or food-based supplements), it doesn’t take much of the vitamin to prevent illness. For some people, raw, living juices and high-energy foods are enough. However, a severe deficiency suggests the need for Synthetics. For those who have suffered from severe deficiencies for a long time, or persistent serious conditions, food-based supplements are inadequate and synthetic Vitamin C supplementation is necessary.

Liquid Supplements

With solid supplements (powders and pills), powders mixed in water are the most easily absorbed. Capsules are somewhat easy, and tablets can be difficult. Hydrochloric acid in the stomach is needed to dissolve solids; so if your stomach doesn’t naturally produce enough acid, you can always take a hydrochloric acid supplement—perhaps with a broad range of digestive enzymes and even ox bile if your digestion is especially poor. To make supplements easier to absorb, open the capsules and sprinkle the contents on food or in liquid (but don’t do this with hydrochloric acid, which is too caustic for the mouth). If the ingredients in a tablet are too harsh to be chewed, pulverize the tablet and eat it with applesauce, yogurt, pudding, or something similar.

The most absorbable supplements, and those which many practitioners prefer, are in liquid form. Many liquid supplements are *colloidal*, whose tiny particles don’t require much work from the digestive tract. *Ionic* nutrients, even smaller particles than colloidal, carry a beneficial charge that is often felt instantly. A recent development is *liposomal* liquids, nutrients encased in lecithin or other oils that escort the nutrient straight into the body’s cells. One company, VitalMinz, makes a complete formula of easily absorbed, ionic and liposomal vitamins and minerals (see Appendix A).

The body is designed to extract what it needs and eliminate what it doesn’t; but very ill or debilitated people usually can’t do this. Also, genetic defects may prevent the body from efficiently metabolizing foods or even food-based supplements. Even concentrated food powders may not provide enough nutrition, especially for people dealing with severe deficiencies. Under such circumstances, liquid supplements are clearly the best choice.

Guidelines for Effective, Safe Supplements

People who are ill are starved for nutrients. To correct the deficit, one can obtain more nutrition from carefully crafted supplements. When used correctly, nutritional supplements do what the name suggests: they *enhance*, *reinforce* or *supplement* the body's vitality, thereby making a huge difference in how we feel and function. Vegetarian supplements are fine, though sometimes animal products such as glandulars are needed. (See Sidebar, "Glandulars.")

Food-based supplements are dehydrated, concentrated powders of mostly fruits and vegetables, available as tablets, capsules and occasionally liquids. Often, the co-factors (enzymes, minerals and other substances) that accompany vitamins when they're in food are not included in synthetic vitamins. This is why it's wise to take single-nutrient supplements with food or food-based supplements.

Synthetic vitamins are processed in a laboratory. Nevertheless, they can be of high quality, especially if they're extracted from plants instead of toxic materials. If you take synthetic vitamins, make sure they're not manufactured from coal tar, other petroleum products, noxious chemicals, or GMOs. Avoid supplements from China, which routinely exports contaminated products. Supplements should not contain fillers, binders, excipients or additives, many of which are potentially allergenic. Sometimes, however, the benefits of the nutrients may outweigh the harm of their additives.

Opponents of nutritional supplementation like to cite research demonstrating the harm caused by vitamins. But what the public is not told—and what such studies often fail to disclose—is that synthetic vitamins are being used! That said, plant-based vitamins are not always the most

helpful, and synthetic supplements are not always harmful. The body may utilize food-based supplements better than synthetics, but not always. The question to ask isn't "Is it natural or synthetic?" but rather, "*Can this be absorbed and utilized by the body with optimal benefit?*" Because human beings can't always absorb, metabolize, convert or utilize the nutrients in foods, synthetic vitamins can be extremely helpful, as long as they're used properly and don't cause undue stress. In fact, a representative from food-based Standard Process once told me privately, "Sometimes synthetic vitamins are necessary—especially when people are so ill that their bodies need a massive push and nothing else will work. We don't live in a perfect world."

People sometimes fear that if they keep taking supplements, eventually the body won't be able to function without them. Annemarie Colbin writes that taking a lot of supplements may cause excessive hunger, because you'll crave the bulk that normally accompanies concentrated nutrients. But because those who are ill tend to suffer from severe nutrient depletion, high amounts are needed to correct the condition. Nevertheless, if you're ingesting high amounts of just a few nutrients, be careful that you aren't unbalancing the ratios of other nutrients in the body.

How do you know if your supplements are effective and safe? Ask the company the source of ingredients and how they are processed. Most people don't know that major (and some smaller) supplement companies hire the same manufacturing plants to supply their tablets and capsules. There's no substantial difference between brands, except perhaps for the fillers and binders that are used. To ensure quality, buy from companies that value full disclosure.

Glandulars

One type of supplement is comprised of the raw glands and organs of animals (mainly cattle) who ideally are raised without hormones or antibiotics. The animal material is usually processed via freeze-drying. Such supplements commonly include the thyroid, liver, adrenals, pancreas, kidneys, ovaries, testes, pituitary and thymus; but they can also be comprised of lymph, spleen, brain, gallbladder, kidneys, heart, and salivary glands.

Tests conducted in Germany by Dr. A. Kment, and published in 1958 and 1972, revealed something remarkable. By tagging a radioactive isotope onto organ or gland tissue and then injecting it into a recipient, Dr. Kment discovered that *the organ or gland tissue from the donor has an affinity for the same organ or gland in the recipient*. For example, donor thyroid tissue is absorbed by the thyroid of the recipient, donor liver is absorbed by the recipient's liver, and so on. Incredibly, the cellular attraction is *organ-specific* and *not species specific*. This remarkable affinity is the basis of modern injectable cell therapy.

Although Dr. Kment performed his tests with injectable glandular material, subsequent researchers have found that even when eaten, organ and glandular material survives the stomach acid and travels to the corresponding organ or gland in the recipient's body. This is undoubtedly why our ancestors felt that eating such foods bolstered their strength—and why modern-day folk with depleted or weak organs and glands can be helped with supplementation. Help your dog by feeding it small amounts of raw organs and glands from cows, sheep, goats, deer, elk, or similar animals. Most dogs love these meats and thrive on them. Humans who want to strengthen their liver, kidneys or heart might want to add these (cooked) foods to their own diets as well.

Absorbable Minerals From Dr. Hans Nieper

Many important biochemical reactions in the body cannot occur if there's a mineral deficiency. For example, zinc is needed for more than 200 enzyme reactions and magnesium is needed for more than 300. But getting a tablet from the digestive tract into the bloodstream is only the first step. A nutrient helps the body only if it can pass through a cell membrane to the inside of the cell where it's finally utilized. Sometimes a cell membrane isn't permeable—common in people with severe illness and degeneration—because it's structurally damaged or some of its metabolic pathways are blocked. This corresponds to weakened or incorrect electrical charges on the inside and outside of the cell. In such cases, a mineral will simply circulate through the bloodstream until it's filtered out by the kidneys, leaving the tissues starved.

One way to get nutrients into severely ill people is to intravenously saturate the bloodstream with nutrients at such high levels that some of the nutrients are forced into the cells solely from pressure. However, intravenous delivery is expensive and must be administered by a licensed medical professional. Also, saturating the bloodstream with excessive amounts of certain nutrients can create an imbalance of others. An easier, safer and less expensive way is to orally ingest minerals bound to other substances called *transporters*.

In the 1950s, German medical doctor Hans Nieper developed four different classes of mineral transporters—*aspartates*, *orotates*, *arginates*, and *2-AEP* (short for *2-aminoethanolphosphate*)—each of which has an affinity for different types of body tissue. This specific targeting allows the minerals to enter, nourish and repair the organs, glands and other tissues that need them. The formulas are designed for absorption even by people with poor digestion and impaired cell membranes. The transporters not only escort the minerals across cell membranes, but offer benefits in their own right, such as supporting energy production and protein synthesis.

Nieper's formulas compensate for the relatively low absorption rates of some forms of minerals (including lactates, citrates and gluconates), which can be unfavorably transformed by the stomach acid. Bound to their transporters as they enter the bloodstream from the small intestine, the intact Nieper minerals aren't released until they enter the cells. To illustrate: Medical doctor, neurologist and clinical nutritionist Steve Hiltiwanger points out that 600 mg of elemental magnesium, taken as magnesium oxide, has an absorption rate of 9%, resulting in only 54 mg of magnesium that can actually be utilized. Even liquid ionic (colloidal) magnesium may require extra steps to cross cell membranes, because it's repelled by the

cell's electrical charge. However, when taken with a transporter, *all* of the magnesium is utilized.

Here's a brief summary of the mineral transporter functions, along with (if applicable) the organs, glands and tissues for which the transporters have an affinity.

Aspartates. Deliver minerals to the outer cell membranes of muscle, bone, glands, heart, liver and breast. Depending on the minerals they're paired with, they:

- ◆ Recalcify bone
- ◆ Protect against cardiac ailments
- ◆ Inhibit tumor activity, protect against cancer, and support general immunity
- ◆ Increase insulin production
- ◆ Detoxify the liver (by helping to remove ammonia)
- ◆ Reduce tension in the lungs (thus alleviating asthma)

Orotates. Depending on the minerals they're paired with, they:

- ◆ Recalcify bone
- ◆ Are anti-inflammatory and help relieve pain
- ◆ Help with neurological disorders: depression, mood swings, migraines, and headaches
- ◆ Protect the heart, help prevent hardening of the arteries, and reduce serum cholesterol
- ◆ Protect the kidneys (when used with zinc aspartate)
- ◆ Inhibit the ability of viruses to replicate
- ◆ Maintain the balance of potassium in the body

Arginates. Deliver minerals to the plasma as well as to the outer cell membranes. Depending on the minerals they're paired with, they:

- ◆ Lower blood sugar levels
- ◆ Help alleviate inner ear hearing loss
- ◆ Transport fats into the mitochondria (the fuel-burning units of the cells that utilize fatty acids)
- ◆ Support immunity

2-AEP (2-aminoethylphosphate). Helps maintain the cell's normal electromagnetic field, thus allowing nutrients but not toxins to enter. Favorably affects membrane composition and permeability in:

- ◆ Myelin (the fatty sheath covering nerve cells)
- ◆ Bone
- ◆ Kidney glomeruli (tubules that clean the blood)
- ◆ Linings of the capillaries
- ◆ Pulmonary alveoli (small air spaces in the lungs where carbon dioxide leaves the blood and oxygen enters)
- ◆ Arteries in the retina of the eyes

Unfortunately, the company that sells Nieper's original formulas has also put fillers in many of the products. You may want to look for similar formulations elsewhere.

One food-based company is Standard Process, which owns acres of farmland on which it grows organic vegetables. After the vegetables are picked, they're dried at very low heat. The non-nutritive fiber is removed, and the remaining mass is concentrated and put into tablets and capsules. Many of the supplements are pleasant tasting enough to be chewed. The Standard Process vegetable-based products, many of which are made from organically farmed produce, are relatively clean. However, in recent years the glandular-based products have not been from organically raised animals due to the company's inability to meet a high consumer demand. (The company removed this information from their website several years ago.) Another good whole foods brand is Innate Response. A few more popular food-based supplement companies are HealthForce, Mega Food and Pure Synergy, although new manufacturers are constantly being created. An excellent company for herbal formulas is Medi-Herb (affiliated with Standard Process), and two others that bear the names of the herbalist-naturopaths who founded them: Dr. John Christopher and Dr. Richard Schulze. As people become more health conscious, there will undoubtedly be more companies making good products. However, as with synthetic supplements, there may be ingredients that your system doesn't need, as well as harmful fillers and binders. You must read the labels of even food-based supplements.

People who are in fairly good health, or are on a wellness maintenance program, may feel best when taking food-based multiple vitamins and minerals. Those who are seriously ill, or suffer from hard-to-manage stress, may want a food-grade multiple vitamin and mineral complex (to obtain all co-factors that whole foods provide), along with high amounts of whatever bioavailable synthetic nutrients they particularly need. People who have difficulty converting folate or other vitamins into what the cells ultimately use, will need to supplement. In these cases, synthetics work better than "natural." And because humans cannot manufacture ascorbic acid in their bodies, taking extra Vitamin C may be mandatory. One excellent form is *liposomal*, which easily gets into the cells. See Sidebar, "How To Make Liposomal Vitamin C."

One more thing. Cost is usually a factor when choosing a health regimen. People with high nutrient requirements might have to spend thirty times more money on food grade supplements to get the results they would have achieved with fewer synthetic nutrients. Those suffering from severe infections, longstanding degenerative conditions, or an unhealthy lifestyle (such as daily alcohol or smoking), require immediate intervention. Food-based supplements may simply work too slowly to cause the necessary changes in a rapid enough time period. Don't be afraid to combine synthetic and food-based.

How To Make Liposomal Vitamin C

People who are very ill require high amounts of Vitamin C (grams, not milligrams). But 12 grams taken orally can cause diarrhea, and intravenous drips are expensive and must be administered by licensed medical personnel. With *Liposomal Encapsulated Technology* (LET) Vitamin C, phospholipids (fats) and Vitamin C are blended into a solution under so much pressure that the lipids surround the vitamin. Taken orally, the solution bypasses the digestive tract and travels throughout the bloodstream, crossing the cell membranes directly into the cells.

Commercially manufactured LET Vitamin C is expensive. You can make it yourself and get promising results for a lot less money. This homemade solution is about 70% encapsulated.

Ingredients and Equipment

- ◆ **A 2-cup Ultrasonic Cleaner.** You can use a high-speed blender, but you'll get better results with an ultrasonic cleaner.
- ◆ **Lecithin (granulated).** If your lecithin is made from soy, make sure it's not genetically engineered. (Most people who are allergic to soy can tolerate its lecithin). If you don't want to use soy, you can now buy granulated lecithin from sunflower. Liquid sunflower lecithin clumps and is hard to dissolve.
- ◆ **Ascorbic Acid (Vitamin C).** Most ascorbic acid is made with genetically engineered corn from China (which is notorious for selling toxic and contaminated products). Use ascorbic acid powder made from beets or cassava. Manufacturers constantly change their formulas, so you'll have to investigate to find a suitable Vitamin C powder.
- ◆ **Distilled water.** Bought from the supermarket, it will be contaminated with plastic. It's better to buy your own distiller (for about one hundred dollars).

Directions

1. Completely dissolve 3 level tablespoons of lecithin in 1 cup of distilled water in a quart jar.
2. Dissolve 1 tablespoon of ascorbic acid powder (Vitamin C) in ½ cup of water in a separate jar.
3. Pour dissolved Vitamin C solution into the quart jar holding the dissolved lecithin, cover, and shake.
4. Pour entire mixture into the ultrasonic cleaner bowl and keep the unit running until the fluid is homogenized. It will have a milky appearance.

If your ultrasonic cleaner automatically stops, keep pushing the "on" button to continue. Repeat for about 12 minutes. You may keep the cover open and stir the fluid with a plastic or wooden spoon to facilitate mixing.

Yields: about 12 grams of LET Vitamin C. Refrigerate.

This process is now being used for many substances, including Coenzyme Q10, essential oils, and more.

Food and Nutrient Allergies

Some people say that they're "allergic" to a vital nutrient such as iodine, or to foods that contain these nutrients. It doesn't make sense that one would be "allergic" to a vital nutrient, so let's explore this.

Take "allergies" that cause headache, fatigue, skin rash, etc. that some people report—as with an iodine "allergy." These symptoms are *detox reactions* that occur when the iodine dislodges poisons from the iodine receptor sites and the toxins circulate through the bloodstream. Address this possibility first. A *food intolerance* (which many call an "allergy") is the body's inability to absorb or assimilate nutrients from a food, and is usually related to insufficient enzymes or another digestive malfunction. Then, consider a true *immune-mediated allergy* (there are several types), in which the immune cells overreact in response to the ingestion of a food or nutrient—sometimes even attacking the body's own tissues.

To react adversely to a vital and necessary nutrient might be called the body's "errors of judgment." A number of protocols have been designed to address these errors. One is NAET (Nambudripad's Allergy Elimination Technique), developed by Devi Nambudripad, MD, DC, LAc, PhD. In this paradigm, an "allergy" is a processing error by the body that's triggered by an "allergen" or irritant—any food, nutrient, chemical, or even emotion that the body cannot manage correctly. Various stressors cause the acupuncture meridians to become unbalanced with too much, not enough, or stuck *chi* (life energy). The unbalanced energy then causes malfunctions in glands, organs, the nervous system, and muscles. Once the blockages are cleared, the body-mind can utilize nutrients, repair and build tissue, and remove wastes—i.e., function.

Gary Craig's Emotional Freedom Technique™ is an easily learned, self-administered protocol. Tapping on acupuncture points on the body methodically, and in a certain sequence, breaks the unproductive electrical messages that keep the system looped in a negative reaction cycle. A related method uses an LED. The irritant is held close to or against the body while scanning the entire surface of each ear for 30 seconds with a low-level laser or LED. (The ears contain acupuncture points for the entire body.) This helps the body dump toxins. Some electromedical equipment works on a quantum or energetic level. One unit is the I.M.A.E.T.®, or Immune Modulation & Allergy Elimination Technology (see Appendix A).

If you aren't getting well with supplements, or you're a practitioner who has reached an impasse with a client, consider addressing the body's "errors of judgment."

Customizing a Nutritional Program

Some people are surprised or disturbed when told to take many supplements. "Why can't I simply take a multi-vitamin tablet in the morning and be done with it?" they exclaim—and then refuse to follow their protocol because "it's too hard to take so many pills." (Nevertheless, many of these same people don't question their allopathic doctor when told to take multiple pharmaceuticals.) Remember that when you're treating the underlying causes of a major malfunction (with nutrition) instead of merely masking symptoms (with allopathic medicine), many nutrients are required. A few good labs in the United States offer accurate, detailed nutritional profiles based on blood and urine samples. If you have a longstanding or complex condition, find a practitioner who can order and interpret such a test and also recommend supplements for you.

The number of brands and types of nutritional supplements can be daunting not only to laypersons, but also to health practitioners. Here are some facts to consider when choosing your supplement program:

- ◆ *Vitamins and Minerals Come In Many Forms.* For example, the same mineral can be bound to many different substances. Your unique metabolism may require magnesium citrate but not magnesium gluconate. Experiment to find what works.
- ◆ *Vitamins and Minerals Work Together.* Nutrients always work synergistically with other nutrients. Our needs can be many, especially if the condition took years to develop. Hence, a problem might not be alleviated with just one, two, or even three single nutrients.

Example #1: Calcium, that famous bone builder, cannot enter the cell without being escorted by its companion mineral, magnesium. To complete the process, you also need the minerals boron, phosphorus and potassium, along with Vitamins D3 and K. (One form of the vitamin, K2, is synthesized by friendly flora while K1 is from plants. The body uses them in different ways, so you'll need the right form, K2.)

Example #2: The liver undergoes four phases of detoxification. Nutrients required for just the first phase include Vitamins B2, B3, B6 and B12; folate; glutathione; flavonoids; and the minerals selenium, copper, zinc and manganese. In subsequent liver detox phases many of these same nutrients are required, with other nutrients as well. If there are insufficient levels of any nutrient during any phase, metabolic wastes and environmental toxins will linger in the body and eventually cause even more health problems, ranging from migraines and digestive disturbances to more serious conditions including cancer.

- ◆ *Source of the Vitamin or Mineral.* Let's say you have all the symptoms of a Vitamin C deficiency, but you don't feel better taking it—in fact, you feel worse. This doesn't mean that you don't need Vitamin C. Maybe you felt bad because your Vitamin C supplement was sourced from corn, and you either have a corn intolerance or else it was very likely genetically engineered. You need the right brand of Vitamin C that has been produced from beets or cassava.
- ◆ *Manufacturing Process of the Supplement.* Two companies manufacturing an identical vitamin or mineral use processes that may involve different enzymes, extraction ingredients, temperatures, etc. One of the manufacturing methods may agree with you while the other does not.
- ◆ *Excipients, Fillers and Binders.* You may be reacting negatively not to the nutrient itself, but to one or more of the additives in a tablet or even capsule.

It's an art to customize a protocol that gives the body exactly what it needs so it can repair itself. Just as with dietary requirements, there is no “one-size-fits-all” protocol for nutritional supplements. If you suffer from serious or chronic illness and cannot get well despite your best efforts, experimentation and research, consult a knowledgeable professional.

OXYGEN THERAPIES

Scientists have debated—based on geological testing of rock and polar ice core samples—how much oxygen was in Earth's atmosphere thousands or millions of years ago compared to modern times. While it's difficult to pinpoint exactly what percentage of oxygen used to be on Earth (and pointless to argue), we do know that in the last century, oxygen levels *have* decreased and it's harder to breathe. Millions worldwide suffer from asthma and emphysema. Even those without a diagnosis of respiratory disorders know, after taking one deep inhalation, that our atmosphere is becoming foul, especially in industrialized cities. We are literally starving for oxygen. On the Internet, photos have been circulated of pedestrians in China who routinely wear air filtration masks outside (independent of any other reason such as supposed protection from viruses). It's no surprise that Tokyo—with alarmingly high air pollution levels and more people per square mile than any other city in the world—has opened oxygen bars, where people congregate and inhale

oxygen. Oxygen bars now exist in the United States as well.

Our diminishing oxygen supply has cost us our health. Dr. Otto Warburg, who won the Nobel Prize for medicine twice (in 1931 and 1944), showed that a fundamental cause of all degenerative disease is oxygen starvation at the cellular level. Most viruses, fungi, bacteria and parasites are *anaerobic*, or suited to an oxygen-deprived environment. They are unable to survive in an *aerobic*, or oxygen-rich, environment. (Pathogens that can switch to surviving in either environment can't survive ozone.)

Oxygen therapy is not new. The three most common forms of oxygen—hydrogen peroxide, ozone, and hyperbaric (concentrated)—have been used therapeutically for over 100 years. Depending on which form you use, oxygen can help neutralize harmful microorganisms and toxins, strengthen the body's immune response, support normal body tissues, and optimize cellular metabolism. Oxygen therapies cannot be patented by drug companies, which is undoubtedly why the public doesn't hear more about their uses or effectiveness.

Hydrogen Peroxide

The chemical symbol for hydrogen peroxide is H_2O_2 , designating two atoms of hydrogen combined with two atoms of oxygen. Some of you may remember falling as a child and your mother applying hydrogen peroxide to the scrape on your knee. It stung as it bubbled, but the liquid did a great job keeping the wound clean because most pathogens can't survive in the presence of oxygen.

Hydrogen peroxide is applied to much more than skinned knees. Industry has long known of its valuable and almost unlimited applications. One source mentions “a special hydrogen peroxide [that] is manufactured for the semi-conductor industry. . . . The transistors and chips are cleaned in hydrogen peroxide just prior to assembly” because “dust of any kind would cause noise [in the finished electrical components] and create problems.” The cleaning is done in a special space called a “clean room” which, incredibly, is “up to 100 times cleaner than any operating room in a hospital!”¹⁷⁴

Hydrogen peroxide has food and agricultural uses. It acts as a dough conditioner, as a bleaching agent for food and food-related paper products, and is used in aseptic cardboard packaging for juices and other liquids. Seeds are soaked in H_2O_2 to make them sprout faster, and mature plants are sprayed with it to increase crop yield.

Hydrogen peroxide is so essential, it's produced by the body. Nathaniel Altman writes:

Mother's milk is an established and healthy food source of energy, proteins, vitamins and minerals. In addition to its value as a nutrient source, interest has arisen in the ability of milk to kill bacteria, viruses, fungi and in its anti-amoebic properties. . . . In addition to the immunoglobulins, . . . the antibacterial effect of milk proteins is generally mediated by the reaction of hydrogen peroxide.

—Al-Kerwi et al.,

"Mother's milk and hydrogen peroxide,"
Asia Pacific Journal of Clinical Nutrition, January 2005

Hydrogen peroxide is involved in all of life's vital processes and must be present for the immune system to function properly. The cells in the body that fight infection (known as granulocytes) produce hydrogen peroxide as a first line of defense against . . . parasites, viruses, bacteria, and yeast. It is also required for the metabolism of protein, carbohydrates, fats, vitamins, and minerals. As a hormonal regulator, hydrogen peroxide is necessary for the body's production of estrogen, progesterone, and thyroxine. It also helps regulate blood sugar and the production of energy in cells.¹⁷⁵

Along with its medical uses as a disinfectant, antiseptic and oxidizer, H_2O_2 is now routinely utilized for a wide variety of conditions—including circulatory disorders, infections and immune dysfunctions—in humans, pets and livestock. This is partly due to its ability to dilate blood vessels in the heart and brain, and stimulate the production of interferon (an immune regulator).

Physician William Campbell Douglass notes that since 1920, over six thousand articles have appeared in the scientific literature pertaining to the scientific applications of hydrogen peroxide. Douglass, who has personally treated many people and reports that he often (though not always) obtains good results, describes in *Hydrogen Peroxide, Medical Miracle* how H_2O_2 helps rid the body of harmful microbes. "The clinical benefit of oxygen saturation of tissue fluid from the oxygen produced by hydrogen peroxide may be of secondary importance" because even greater benefit is hydrogen peroxide's role as "a powerful oxidizer. . . . It will oxidize [burn up] toxic and nontoxic substances alike, which is completely separate from its role as an oxygen contributor."¹⁷⁶ Altman agrees. Although H_2O_2 delivers "small quantities" of oxygen throughout the body, he writes, its prime way of oxygenating the body is due to:

an extraordinary capacity to stimulate oxidative enzymes, which have the ability to change the

chemical component of other substances (like viruses and bacteria) without being changed themselves. . . . The presence of hydrogen peroxide enhances natural cellular oxidative processes, which increases the body's ability to use what oxygen is available.¹⁷⁷

One argument commonly made against hydrogen peroxide is its tendency to produce free radicals. The presumed free radical damage from oral H_2O_2 is challenged by Ed McCabe, who is so highly regarded as an expert on oxygen therapies that he has been nicknamed "Mr. Oxygen." In his book *Oxygen Therapies*, he writes that the body is so effective in attacking pathogens precisely because of the free radicals that the H_2O_2 produces.

Leukocytes (white cells in the blood) produce a natural hydrogen peroxide . . . which surrounds and destroys harmful microbes. The hydrogen peroxide breaks down into water and oxygen (O_1). This form of oxygen (O_1) is a free radical. Therefore, it is unstable. It attaches to the most unstable structure around it; a virus or harmful microbe fits the bill. It disrupts them electrically, and this kills the bacteria—or disrupts the virus—and the white cells digest the remains. Any leftover peroxide is neutralized by catalase, an enzyme. . . . The cycle of defense is complete. This is our immune system at work.¹⁷⁸

Keep in mind that the oxygen *singlet*, in the form of O_1 , does not harm healthy living tissue. If large amounts of leftover peroxide might be a problem, McCabe suggests taking the antioxidant superoxide dismutase (SOD) at least several hours away from the H_2O_2 to help neutralize it. Interestingly, the first physician to recommend taking H_2O_2 orally was Royal Rife's colleague, Dr. Edward Rosenow.

Despite hydrogen peroxide's potential, it may be the most controversial of all the oxygen therapies. Some holistic doctors administer H_2O_2 intravenously, but debate the safety of administering it orally. Douglass cites studies suggesting that H_2O_2 taken orally might cause erosion of the stomach lining and even cancer. And one doctor in private practice once told me that she treated a number of people suffering from ulcers or damaged kidneys due to long-term consumption of H_2O_2 . Nevertheless, it appears that ingested H_2O_2 may cause damage or discomfort only under certain conditions: if it's taken with food, if too much is consumed at one time, or if the person is deficient in certain enzymes that could help the body handle the large increase of hydrogen peroxide in the system.

Researchers disagree about what constitutes a safe oral dose. Both McCabe and Altman suggest rather generous

amounts of oral hydrogen peroxide for various purposes, but Douglass is more prudent. “I don’t think H_2O_2 is dangerous taken orally as long as the recommended dose is not exceeded (10 drops of 3% H_2O_2 , three times a day),” he writes.¹⁷⁹ Also—and this is important—the hydrogen peroxide must be taken when the stomach is empty. Otherwise, it will interfere with the digestion of food and cause nausea or even vomiting when it interacts with bacteria in the stomach. This is why veterinarians often suggest feeding a dilute solution of H_2O_2 to a pet to induce vomiting if the animal has swallowed a poison.

If you do decide to drink H_2O_2 , be aware that it comes in different dilutions and grades (purities). Only *food grade* H_2O_2 is pure enough to ingest. The 3% dilution H_2O_2 from the drug or grocery store is not food grade (edible). It also contains so-called stabilizers such as phenol, acetanilide, acetanilid, sodium stannate, and tetrasodium phosphate. Other strengths of H_2O_2 , used for bleaching hair or for medical research, also contain additives.

A common food grade hydrogen peroxide dilution is 9%, although I’ve also seen 35% and occasionally 50% for sale. Concentrated H_2O_2 must be diluted to at least 3% to be safe for the skin or internal consumption. Food grade H_2O_2 can be bought in some health food stores, or through the mail, for a reasonable price. It’s perishable, and must be refrigerated. For long-term storage, it can be frozen. The average consumer, who doesn’t have access to medically administered intravenous hydrogen peroxide therapy, may self-administer hydrogen peroxide at home to eliminate all kinds of infections from *Staph* to *Candida*. Some people object to hydrogen peroxide’s strange taste and unpleasant sensation when swallowed, so they mix it with aloe vera juice or a little bit of cinnamon.

Hydrogen peroxide helps eliminate infections in the ears and sinuses. Liberally spray a 3% solution of H_2O_2 , or put several drops of it from a dropper bottle, into one ear and then the other. Let it fizz in each ear for 10 minutes, keeping the head tilted (lying down on the side is best) so that the ear canal retains the H_2O_2 . Hydrogen peroxide can be added to a douche or bathwater. It also makes a wonderful mouthwash because it kills bacteria that cause gum infections. A 3% (or less) solution is held in the mouth for at least a minute and then expelled.

About one teaspoon is poured into a quart of pasteurized milk to prevent unwanted bacteria from growing. Grocers spray H_2O_2 on their fruits and vegetables to keep them fresh. And as a general disinfectant and cleaner, peroxide can be sprayed in the bathroom to get rid of mold. Hydrogen peroxide at 35% or (even better) 50% dilution can be used to eliminate fungus and other contaminants in swimming pools and hot tubs, in addition

to wells that supply drinking water. Ed McCabe’s books give the precise percentages of dilution.

Concentrated H_2O_2 must be diluted down to at least a 3% strength before using it anywhere on or in your body. *If highly concentrated H_2O_2 gets on your skin, it will burn it. If highly concentrated hydrogen peroxide gets into your eyes or ears, or if you drink it, you can seriously damage yourself.* You must dilute and use hydrogen peroxide with great care if you buy it in a concentrated form.

The caustic nature of concentrated hydrogen peroxide, however, does not indicate *inherent* toxicity. There’s a difference between toxicity due to *concentration* and toxicity based on *intrinsic harm*. Take genuine poisons, such as neurotoxins and petrochemicals. Even when diluted to 1 ppm (parts per million)—where one part chemical is dispersed in one million parts of water—the essential caustic or lethal effect of the chemical doesn’t change. On the other hand, concentrated food grade H_2O_2 loses its ability to cause harm when it’s diluted. In fact, dispersed in water, its qualities are totally altered. The human body itself manufactures very diluted H_2O_2 , which helps the system heal and function.

The principle of dilution affecting function also exists with hydrochloric acid. Highly concentrated hydrochloric acid is such a corrosive solvent that it is sometimes used by industry to eat through metal. Yet the acid is secreted by the stomach, and without it we cannot digest protein. Inherently, hydrochloric acid and hydrogen peroxide are not poisonous: we must simply be careful about the strength or dilution at which they are used. Hydrogen peroxide (as with hydrochloric acid) can be safe and beneficial when it’s handled properly and used in the correct proportions.

Considering all the medications, food additives, pesticides, and other toxic chemicals that our government allows on the market, I believe that the danger of H_2O_2 is overstated. People who take charge of their own health tend to do more research, and thus develop keener discernment, than those who give away their power to doctors and regulatory agencies. I see no reason why highly concentrated food grade hydrogen peroxide (more concentrated than 3%) should be avoided if you are careful when handling it. Don’t allow the bottle to tip. If buying in bulk, you’ll have to freeze it. Keep the container in a plastic bag in case of leakage. If you spill some on your hands (your skin will turn white), immediately rinse with water. If you spill it on surfaces or get it in your eyes, immediately flush with water. If you accidentally swallow too strong a solution, drink plenty of water, remain standing, and seek medical help.

If you don’t think you can correctly and safely measure hydrogen peroxide, consider aloe vera, a hardy warm-

weather plant that naturally contains H_2O_2 . Aloe is applied topically for wounds and is ingested for all kinds of infections and digestive tract disorders (including hemorrhoids). Also, try waterfall therapy; it's fun! The refreshing feeling you get when near a waterfall is not only due to its positive-effect negative ion content, but also to the naturally high concentration of H_2O_2 in the spray or mist. You can also buy products that contain therapeutic amounts of some form of oxygen.

When used correctly, H_2O_2 can help increase energy and improve immune function. Strong reactions to orally administered H_2O_2 may feel similar to a detox reaction that results from rifting. This could mean either that the hydrogen peroxide is working, or that the amounts are dangerously excessive. Read Ed McCabe's book before using it internally. You can find a doctor to administer it intravenously, but this is much more expensive (although more efficient) than an oral program. At the very least, you can use H_2O_2 externally and for disinfecting objects.

Ozone

The second form of oxygen therapy that a layperson can easily use is ozone. Oxygen is found in nature in a diatomic form (two atoms together), and thus has the chemical designation of O_2 . Ozone, also found in nature, is triatomic (three atoms together), and thus has the chemical designation of O_3 . O_3 is much more reactive than O_2 . After ozone is created, it immediately breaks into O_1 and O_2 . That extra lone atom of oxygen, O_1 , combines with whatever it touches in a process called *oxidation*, which commonly occurs with bacteria, viruses, fungi, toxins, and even fats.

Ozone is so effective and multifaceted that it's worth exploring in depth. First I'll discuss the history of ozone, including how it acquired an undeserved negative reputation. Then I'll explain how ozone deactivates dangerous microorganisms and toxins, and the best ways to use it.

History of Ozone

The word "ozone" comes from the Greek word *ozein*, which means "to smell." You may remember being outside and smelling ozone created by lightning after a thunderstorm. However, ozone more commonly is created by the sun's ultraviolet radiation, "produced constantly in the upper atmosphere as long as the sun is shining," writes ozone specialist Saul Pressman in *The Story of Ozone*.

Ozone is heavier than air, it . . . falls earthward. As it falls, it combines with any pollutant it contacts, cleaning the air—nature's wonderful self-cleaning system. If ozone contacts water vapor as it falls, it forms hydrogen peroxide, a component of rainwater, [which is] the reason why rainwater causes plants to grow better than irrigation with ground water.¹⁸⁰

Ozone was discovered in 1785 by a Dutch physicist, and named and synthesized in 1840 by a German chemist working at the University of Basel in Switzerland. In 1856, the gas was used to disinfect operating rooms, and in 1870 it was reported to purify blood in test tubes. Monaco was the first country to build a water treatment plant using ozone in 1860, followed by Holland, Germany and France. The Germans began injecting ozone

in 1898. Meanwhile in America, the Florida Medical Association published a work explaining how to use ozone therapeutically. Dr. John Harvey Kellogg first used ozone in sauna steam cabinets in 1881 at his naturopathic sanitarium in Battle Creek, Michigan, having written in his 1880 book *Diphtheria: Its Causes, Prevention, and Proper Treatment*: "Probably, no agent . . . for the purpose of purifying the air

of the sick-room . . . is so useful for this purpose as ozone, one of the most powerful disinfectants known."¹⁸¹ In 1896, Nikola Tesla patented his first ozone generator. He began selling ozonated olive oil to doctors for medical use in 1900.

Throughout the first half of the 20th century, a number of physicians and dentists published detailed accounts of successfully using ozone to treat a wide variety of diseases, including anemia, asthma, gout, hay fever, syphilis, many types of cancer, chemical poisoning, diabetes, influenza, pneumonia, gangrene, wounds, and even insomnia and strokes. A 1904 volume of chemist Charles Marchand's *The Medical Uses of Hydrozone* [ozonated water] and *Glycozone* [ozonated olive oil] shows that those substances had been approved by the US Surgeon General! In June 1909, Dr. William D. Neel of Chicago was awarded a patent for a device to treat many medical conditions. It combined ozone with aromatic (essential) oils for inhalation. During World War I (as was reported later in German medical journals), the Germans used ozone to treat many conditions including chlorine gas burns, gangrene, influenza, and trench foot. Today, ozone is successfully used not only for all of the previously mentioned ailments, but also for severe infections such as Lyme and Ebola. It's still highly effective for cancer. Even pathogens that are aerobic—or which can

Chemists do not usually stutter. It would be very awkward if they did, seeing that they have at times to get out such words as "methylethylamylophenylium."

—Sir William Crookes
British chemist and physicist
(1832–1919)

change from being anaerobic to aerobic—can't survive in the presence of ozone, a kind of "supercharged" oxygen.

Despite the efforts of some prominent medical cartel members to eliminate ozone therapy as a viable medical treatment, doctors have continued working with ozone and reporting their successes. As of this writing, ozone is a medically recognized therapy in Brazil, Bulgaria, Chile, China, Colombia, Cuba, the Czech Republic, France, Germany, Hungary, Israel, Italy, Japan, Mexico, Poland, Romania, Russia, Singapore, Spain, Yugoslavia, some Canadian provinces, and fifteen US states. Ironically, ozone was part of mainstream medicine in the US from 1900 to 1933 before it was replaced by poisonous drugs.

Dispelling Negative Myths About Ozone

There has been considerable negative publicity concerning ozone near the Earth's surface. The United States EPA states that ozone works fine where it belongs—in the upper atmosphere, to shield us from the sun's UV rays. But, it claims, no amount of ground level ozone is good for you (although the agency "settles" for .08 parts per million as acceptable, as there will always be some ozone on the ground). We are told that ozone levels are most likely to be elevated from noon through early evening on hot, sunny days—a true enough statement, considering that the UV rays from the sun produce ozone, and the sun shines most strongly in the afternoon. But this information is used to persuade people to stay indoors!

The likeminded weather services in the United States and Canada issue a daily "ozone health advisory," which warns the public when these levels are "too" high. We constantly hear reports alleging the adverse effects of ozone, which include all kinds of respiratory irritation from shortness of breath and coughing to chest pain and asthma. It's hard to ignore allegations such as: "Automobile exhaust is the primary cause of ground level ozone and the most serious air pollution problem in the northeast."¹⁸² Or: "The poor air quality is due to elevated ground level ozone concentrations. Ozone is a major component of smog and is formed by the photochemical reaction of pollutants emitted by motor vehicles, industry and other sources in the presence of elevated temperatures and sunlight."¹⁸³ Even those sympathetic to ozone's medical uses sometimes erroneously claim that there's "good" and "bad" ozone. All these statements indicate a misunderstanding of what ozone is and how it works.

The best article I have read that explains the conflicting opinions about ozone is called "The Toxicity of Ozone: A Report and Bibliography." Written by Clark E. Thorp, acting Chairman of the Department of Chemistry and Chemical Engineering at the Armour Research Foundation

of the Illinois Institute of Technology, the article first appeared in the February 1950 edition of *Industrial Medicine and Surgery*. After conducting an extensive review of all the literature on ozone to date, Dr. Thorp realized that researchers differed so vehemently in its appraisal because *they were not analyzing the same gas*. The ozone in one study was created very differently from the "ozone" in another study. As the gas doesn't normally exist in high concentrations, it must be created with special equipment. Investigators who reported *no* (or intrinsically low) toxicity levels for ozone were creating it using *pure oxygen* from cylinders instead of mixed-gas air, and/or were also using *low current densities* in the machines that created the ozone. Investigators who reported intrinsically *high* toxicity levels for ozone were creating it using *mixed-gas air* instead of pure oxygen, and/or were using comparatively *high current densities* in the machines that created the ozone. The manner in which the gas was produced determined whether or not the final product was pure ozone, or a mixed gas that contained harmful nitrogen oxides—which appear when ozone is not made properly. *It's the nitrogen compounds that are toxic, not the ozone itself*.

Unfortunately, many of the researchers whose papers Thorp read did not know the difference between properly made pure ozone, and improperly made contaminated ozone—the latter of which could not accurately be called "ozone." "The majority of the reports claiming ozone to be a highly toxic gas are a direct result of the use of [certain] equipment in making toxicity studies," Thorp explained. And despite the fact that several different scientists "called attention to the harmful effects of nitrogen oxides in ozone as early as 1913, . . . no direct study of the influence of nitrogen oxides on the toxicity of ozone was published until 1941."¹⁸⁴ Thorp also pointed out that one researcher even misreported and later recanted. (Note that Thorpe referred to himself in the third person.)

After noting the work of Thorp previously mentioned, Hill, realizing that oxides of nitrogen had been present in his previous test, decided to rerun the test on an identical basis to determine if pure ozone had higher toxic limits. These later tests showed that pure ozone was definitely non-toxic in concentrations as high as 50 parts per million. As a final result of his work, Hill states: "*Pure ozone is not poisonous in any sense of the word as it breaks down in contact with the mucous membrane and oxygen only remains. For this reason, there are no cumulative effects and pure ozone may be breathed for long periods of time without harm, provided, of course, that immediate irritation of strong concentrations is avoided.*" [emphasis added]¹⁸⁵

Thorp's review of the literature showed that research subjects were quite comfortable with pure ozone of concentrations of up to 20 ppm (parts per million). However, when ozone was mixed with nitrogen compounds, levels of even just 5 ppm were intolerable. So, despite the well-researched scientific literature on ozone, most of the mainstream material on ozone is heavily flawed. What most people call "ozone" is the *contaminants* that *accompany* improperly created ozone. If cathode rays, radioactive emissions or high-voltage charge are present, and if the feed gas is mixed-gas air rather than oxygen, highly toxic nitrogen oxides and other compounds will be created along with the ozone. The pollutants surrounding ozone have nothing to do with the intrinsic qualities of ozone itself. Pure ozone is O_3 . Obviously, if ozone contains contaminants or is combined with other compounds, it's no longer O_3 , but something else. Ed McCabe comments: "Broadly saying 'ozone is toxic' is an uninformed opinion due to oversimplification. It's what you hear from the media, which usually only has time for 'one-liners.' . . . [If the ozone is] contaminated, the contaminants are the toxins, not the ozone used at proper levels!"¹⁸⁶

We can analogize misconceptions about ozone with leaving a bowl of beef stew out in the hot sun for many hours so it becomes contaminated with *Bacillus botulinum*, eating it, contracting food poisoning, and then deciding that stew is bad for you—instead of recognizing that you got sick because you ate spoiled food. Neither the

mainstream media nor government agencies seem willing to correct the misconceptions. Toxic contaminants in ozone simply highlight the need for clean sources of power, and for the manufacture of high quality ozone equipment that does not produce harmful chemicals. To save money, some manufacturers of ozone air cleaners use inferior components, which produce toxic compounds along with the ozone. Ethical manufacturers use better components, ensuring that pure ozone is produced.

Ozone therapy can be regarded as an electrotherapy, and must be dispensed correctly. The concentration of the gas must be high enough to kill aerobic pathogens without over-saturating the cells to the point where it damages them (see Sidebar, "Too Much of a Good Thing: The Immunosuppressive Effects of Ozone"). Likewise, if ozone is inhaled (discussed shortly), it must be done correctly.

How Ozone Works

How does ozone scavenge and decontaminate? In *Medical Applications of Ozone*, one scientist defines ozone as an "oxygen atom in the body on a rapid transit"¹⁸⁷—whether in the body, water, or air. The oxygen on rapid transit is *singlet oxygen*, the lone O_1 atom that breaks off from the O_3 cluster and leaves the O_2 (oxygen) behind. The power of ozone lies not in the O_2 , but in the O_1 atom. Dr. Pressman has stated that emphasizing the chemistry of ozone is misleading *because the therapy's effectiveness lies in its electrical nature. Ozone is the delivery system for the*

Too Much of a Good Thing: The Immunosuppressive Effects of Ozone

Ozone must be applied to the body in the right concentrations. The gas is a carrier of electricity in the form of O_1 atoms. The higher the concentration, the more electricity (electrons) are delivered. If too many electrons pass through a wire, you overload a circuit and blow a fuse. The body responds similarly.

Some information on ozone concentrations came from the research of Professor Bocci at the University of Siena, Italy. He took blood out of subjects, injected it with ozone, and returned the blood to the body. Then he measured the subjects' production of gamma interferon and interleukin 2. When plotted on a graph, the production of these immune substances showed a bell curve. The highest part of the curve lies at about 50 $\mu\text{g/ml}$, or micrograms of ozone per milliliter of blood. Below that concentration, it is less than optimal, disappearing at about 20 $\mu\text{g/ml}$. And above 50 $\mu\text{g/ml}$, it once again falls off, until about 70 $\mu\text{g/ml}$ the response is nil.

More information came from the research of Dr. Jon Greenberg of the Kief Clinic. He experimented with various concentrations of ozone on blood *in vitro*, to try to determine the maximum concentration that should be used. At 90 $\mu\text{g/ml}$, there was definite crimping and damage seen in the red blood cells. He recommended that medical therapy be limited to no more than 80 $\mu\text{g/ml}$.

Dr. F. Sweet and colleagues also did work on ozone concentrations, this time *in vitro* with cancer cells and normal tissue. They found that cancer cells were inhibited by ozone in a concentration-dependent manner. Normal cells were undamaged until a concentration of 70 $\mu\text{g/ml}$ was reached, beyond which their growth was suppressed.

It's clear that there is an upper limit on beneficial concentration for internal use, as well as a lower concentration threshold for ozone's effectiveness. All generators sold for medical use should reflect these established limits—with an output set at a single safe level, or controls to regulate the ozone flow. External use (limb bagging or funneling) can have higher limits, but care must be taken there as well.

—Saul Pressman, DCh, LTOH, 2007

O_1 electron. If the oxygen gas were doing the work, the O_2 that's routinely administered in hospitals would be sufficient to combat severe infections, and it's not. The electrical charge that ozone carries is so strong, it can literally blast a hole through the outer wall of a pathogen, killing even the ones that are aerobic (living on oxygen). In ozone therapy, O_1 is the safe and effective carrier of electricity into the body.

Among other functions, oxygen burns glucose. If there's not enough oxygen in the system, the glucose is incompletely burned, resulting in considerable metabolic debris. But ozone's high oxidative energy allows it to cleanly burn fuel as well as neutralize all sorts of toxins.

To the misinformed, ozone (singlet oxygen) might sound like a free radical. *Free radicals* are wild, unanchored atoms that try to stabilize themselves by stealing electrons from other atoms, thus causing severe tissue damage. But, unlike ozone, free radicals destroy healthy cells. Why doesn't ozone destroy healthy tissue along with pathogens and toxins? As mentioned earlier in the discussion on hydrogen peroxide, normal cells produce generous quantities of enzymes (including catalase and peroxidase) to protect cell membranes from oxidative damage. Damaged cells do not. Therefore, ozone (in the correct amounts) scavenges only unhealthy tissue and leaves healthy tissue intact. Even if healthy tissue is too saturated with toxins to produce sufficient protective enzymes, ozone is still beneficial. Oxidizing whatever toxins it touches, it will allow those cells to function again. Thus, properly administered ozone targets only substances that impair systemic function.

Ozone is also noted for normalizing immune function. It helps the body produce monocytes and lymphocytes (immune cells), as well as immunity biochemicals such as interleukin and interferon. If the immune response is overactive, ozone will calm it; but if the immune response is sluggish, ozone will raise its activity. Ozone also increases the activity of the mitochondria, small fuel-burning units of the cell. An abstract from a Russian study, "Influence of intravenous ozone treatment on the level of different specificity antibodies," states in part:

Medical ozone is the universal stimulator which participates in intracellular biochemical processes. Treatment with intravenous ozone was studied in 35 women [some of them pregnant], . . . three with anti-HLA antibodies, . . . three with anti-sperm antibodies, and seven with antiviral antibodies (*Herpes* 1, 2 and CMV). . . . Ozone is effective for . . . antibody levels in blood. *Medical ozone has direct antiviral activity which induces long term remission and in some cases total elimination of virus from blood. Generally, ozone is a modulator of*

*the immune system, stimulating . . . cell immunity. . . . Immune regulation . . . in pregnant women was increased. [emphasis added]*¹⁸⁸

Kurt Donsbach, DC, ND, PhD, summarizes that oxygen therapies:

- ◆ Increase tissue oxygenation, which brings about improvement in metabolic rate.
- ◆ Stimulate production of white blood cells, which are necessary to fight infection.
- ◆ Decrease blood carbon monoxide load, which frees hemoglobin to carry oxygen.
- ◆ Increase hemoglobin disassociation [the ability of hemoglobin in the red blood cells to let go of the oxygen they are carrying], thus increasing delivery of oxygen from blood to cells.
- ◆ Increase red blood cell flexibility, which allows them to squeeze through the smallest blood vessels more easily.
- ◆ [Break down] and degrade petrochemicals.
- ◆ [Inhibit] the growth of new tissues such as tumors.
- ◆ Increase the production of interferon and tumor necrosis factor, used to fight infections and cancer.
- ◆ Increase the efficiency of the antioxidant enzyme system, which scavenges excess free radicals.¹⁸⁹

Ozonated Drinking Water

Over 3,300 European cities treat their municipal drinking water with ozone. It's difficult to obtain figures for the US, but some cities that now ozonate their water supply include New York, Seattle, Dallas, Tampa, and Los Angeles. Ozone's half life of 12 minutes means that even if you're lucky enough to live in an area that ozonates its municipal water supply, you won't receive the additional benefits of ozone's pathogen and toxin neutralization inside your own body—or enjoy ozone's heightened cell and immune function—unless you add ozone to your water just before drinking it.

The best way to disperse ozone into drinking water is through a stone bubbler, commonly used to oxygenate aquariums. This can be bought at a pet store. Bubble a glass of water for about 10 minutes to saturate the ozone levels. A gallon of water requires about 45 minutes. If ozonated water is kept in the refrigerator at 40°F (7.2°C), the ozone will remain intact in the water for three to four days. Frozen in a plastic container, the water can be stored for several months. Filter the water first; otherwise, the ozone will be used up oxidizing contaminants in the drinking water, instead of doing its work inside your body.

If you're drinking ozonated water, do it on an empty stomach. Ozone's *oxidizing* properties will cancel out the *antioxidant* properties of various nutrients such as resveratrol, alpha lipoic acid, and Vitamins C and E. To avoid the conflict of competing agendas, drink ozonated water at least an hour *before* taking these supplements and wait 4–6 hours to drink it *after* taking them. Drink it at least one hour before a meal; and wait several hours after a meal to drink it so the food can digest first.

Ozone Insufflation

Insufflation refers to the introduction of ozone into the body through an orifice: the ears, rectum, or vagina.

Through the ears is a common (and simple) way to bring ozone into the body. As the gas travels easily, this method is very effective for clearing out the sinuses, the brain, and even sometimes the respiratory tract. Many people suffering from the brain fog of *Candida* and Lyme, or from hard-to-heal sinus infections, report at least partial, and often complete, relief. You can put the hose that emits ozone right to the ear. Some people take a stethoscope with the end drum removed, and attach the dangling hose of the stethoscope right to the output of the ozone unit.

For sinus infections, an alternative to ear insufflation is sinus irrigation using ozonated water. Use *only a few drops*, and let the water soak into the nasal tissues.

Administering ozone through the vagina is, of course, a special privilege of females. This is not only valuable for all sorts of vaginal infections, but it also helps detoxify the abundant lymph nodes in the groin that are accessible through the female genitalia. The only time this method is not advisable is during pregnancy.

Ozone gas by itself has also been administered via rectal insufflation. However, it's more common to ozonate water first, and then do a colonic or enema with the ozonated water. Ozone won't negatively affect the beneficial intestinal flora that thrive on oxygen.

Ozone Funneling and Limb Bagging

These phrases merely refer to concentrating ozone at specific areas where the skin has first been moistened. With funneling, a plastic funnel (available at kitchen supply stores) is attached to the silicone tube coming from the ozone generator, with the wide mouth of the funnel pressed against the part of the body that you want to affect. "This is especially effective with hepatitis, diverticulitis, pancreatitis and cancer," writes Saul Pressman. "It also involves the person in actively taking responsibility for initiating the healing process."¹⁹⁰ Dr. Pressman has seen very healthy babies whose mothers, when pregnant, funneled ozone over the belly. You can also funnel over the liver and colon for detoxification.

Bagging is typically used for limbs. A limb is placed inside a heavy, airtight plastic bag, along with the end of the tube leading from the generator. Then the open end of the bag is secured with a rubber band or string to make the bag airtight and keep the ozone inside. Bagging works nicely for arms and legs that have rashes, wounds, or cuts. This method has also been used to reverse gangrene.

Injectable Ozone

Ozone is sometimes directly injected into an artery or vein. This method requires a physician with considerable skill and experience. It's generally done for people who are seriously ill with degenerative and infectious illnesses. In Germany and other countries, doctors may remove someone's blood, infuse it with ozone, and inject the blood back into the body. Blood ozonation is especially popular for cancer, HIV/AIDS, herpes, and heart disease.

In the United States, physicians have lost their license and their practice for treating clients with ozone (as well as hydrogen peroxide). The Food and Drug Administration and the National Institutes of Health, reports Altman,

have refused to sponsor human trials for ozone and hydrogen peroxide and have made it extremely difficult for small independent companies . . . to undertake such research. Despite the fact that over 10 million people (including over a thousand AIDS patients) have received ozone therapy in Europe, and that reliable data on the use of ozone and hydrogen peroxide are supported by hundreds of scientific articles and clinical studies, the FDA maintains that bio-oxidative therapies like ozone have not been proven either safe or effective.¹⁹¹

Thus, seriously ill people must travel to Mexico or Europe for doctor-administered ozone treatments.

Breathing Ozone Through Oils

Critics of ozone like to point out the respiratory damage that occurs when ozone is inhaled. However, this is a half-truth, isolated out of context and used as a tactic to scare people away from a highly beneficial healing modality.

It's true that inhaling even uncontaminated ozone at too high a concentration through the nose or mouth over long periods can cause lesions or other damage in the delicate mucous membrane lining of the respiratory tract. However, as stated in *Medical Applications of Ozone*, although ozone is "toxic if inhaled, . . . it is only a local toxicity"—and the studies concluding that ozone had negative effects on animals "were done by only observing respiratory tract lesions after *long-term* inhalation of ozone." [emphasis added]¹⁹² Even this information from a

sympathetic source is misleading, though, because rats and mice—the most commonly used laboratory animals—are affected adversely because their lungs cannot clear fluid as rapidly as animals with more advanced lung protection mechanisms. Naturopath George Freibott clarifies this:

All I can say about ozone therapy is good things, as I have never seen it do harm to any patient yet. Even the Armour Report done in the 1950s states the following (this is the report on which most governments and many scientists base their *horror* stories about ozone and its *supposed* harmfulness): “Mice put in an *extremely* high flow of *concentrated* ozone developed pulmonary edema for two days, but by the third day the mice grew *strangely* resistant to the ozone and *no more* pulmonary edema was evident.”

The reason no more pulmonary edema was evident was because the *toxicity* or toxic elements *coating* the lungs of these mice was fully oxidized, neutralized and eliminated by day three! The substances being fully oxidized left nothing more for the ozone to oxidize, thus the pulmonary edema and the “sensitivity” disappeared. We have seen it work likewise in patients that have had different respiratory dysfunctions. . . .

I oftentimes work in atmospheres of ozone (in our laboratories) that exceeds the allowable EPA and FDA standards of allowable ppm (parts per million) by 52,000 times! I suffer *no* diminution in lung capacity (in fact it has increased over the years). We have given IA [intra-artery], IV [intravenous], IM [intra-muscular], and by inhalation, doses of ozone and oxygen therapies to patients for over 25 years personally, without any untoward side effects, ever.¹⁹³

Again, *the source of the ozone is critical*. If the gas is made improperly and contaminated with toxic chemicals, lesions on the lungs may form. But that’s not the fault of the ozone. Caution is advised, however; even a five-minute exposure can cause coughing due to irritation. If you cough, either you’re breathing harmful compounds (which is not very likely), or the ozone concentration is too high. Turn off the generator, open the window, or keep the generator on and leave the area.

Ironically, *the inhalation of raw ozone was never meant to be used as a medical therapy anyway*. Informed physicians and laypersons who use ozone for inhalation make sure to first pass it through suitable oils. The aromatic inhaler device invented by Dr. Neel was called “Process of Producing a Medicament [medication]” because the ozone,

Master Mineral Solution (MMS)

MMS is made by mixing together equal amounts of “unactivated” MMS (sodium chlorite) and food acid such as citric acid. This produces chlorine dioxide, (ClO₂), or “activated” MMS. Chlorine dioxide is often used for wide-scale water purification because it kills pathogens and destroys poisons. It became popularized as a germicide by aerospace engineer Jim Humble after a trip to South America, during which he discovered how safely and effectively ClO₂ helped people recover from malaria.

Don’t be scared of the “chlorine” in “chlorine dioxide.” Chlorine is part of the chemical compound salt (sodium chloride), yet only the uninformed would claim that salt is a poison. In his *MMS Health Recovery Guidebook*, Humble notes the chemical differences between (both unactivated and activated) MMS and chlorine. Chlorine dioxide is “totally different from common household bleach (sodium hypochlorite, which also has Cl in its chemical formula, NaClO) which is . . . known to be cancer causing. Chlorine dioxide (ClO₂) is not cancer causing and has an amazing ability to destroy (through oxidation) disease-causing microorganisms in such a manner that it is also destroyed at the same time, leaving behind only a few grains of plain table salt, discharged oxygen atoms, and dead microorganisms.”¹⁹⁴

Humble’s book gives detailed how-to instructions. He advises using small amounts, especially at first, to avoid die-off reactions. This fluid is cheap, effective, and safe when used properly. The FDA has tried to ban it—perhaps because MMS can reverse autism, as Kerri Rivera, the mother of a formerly autistic child, discovered (see kerririvera.com for details about her protocol). Dr. Stephanie Seneff believes that MMS can eradicate autism because it nonenzymatically breaks down glyphosate, which destroys the gut; and autistic children suffer from major gut issues.

Clearly, MMS is versatile. It’s an underused *oxidant*.

combined with high-terpene essential oils (such as juniper, pine and eucalyptus), atomized the oils into an unstable terpene gas that penetrated the lungs without causing an oxidative reaction. Thus, ten times more ozone was present in the lung tissue with no irritation at all.

Neel wrote in his patent application:

My experiments covering this long period have convinced me of its efficacy in curing consumption [tuberculosis], asthma and other diseases of the respiratory organs, as well as diseases of the blood. . . . this medicament, when properly administered, increases the

red blood corpuscles and hemoglobin and has a general beneficial action upon the system. . . . my invention may be said to consist in bringing an active oxidizing agent [ozone] . . . in contact with . . . terpene [oils], . . . the resultant product being administered to the patient in an inhalable form.¹⁹⁵

Today, variations of Neel's original device are used worldwide, with an expanded repertoire of oils that includes peppermint, spearmint and tea tree. However, ozone is more commonly bubbled through olive oil. When passed through olive oil, ozone is converted into a long chain *ozonide*, making it safe for lung tissue while still retaining the benefits of low dose ozone. Inhaling modified ozone has proven effective in treating all kinds of respiratory conditions, including asthma, bronchial infections and emphysema.

It's interesting that Neel used high-terpene pine oil with his ozone-breathing apparatus. For generations before him, oil of pine had been routinely used for healing. It was known as *turpentine*. Today, the compound we use for thinning paint is manufactured from petroleum, with a very different chemical composition. The history of this therapeutic ingredient has been largely lost (see Chapter 1).

Ozonated Olive Oil Salve

A unique way of utilizing ozone is as a salve. Nikola Tesla's original recipe called for ozone to be bubbled continuously through extra virgin olive oil for about three weeks. (The salve can be made in less time if the ozone generator is powerful enough.) This process changes the chemical composition of the olive oil several times. First the oil becomes naturally bleached. Eventually it gels into a very dense, paste-like, almost rock-solid consistency. German researchers have found that when the salve is kept refrigerated, it retains its effectiveness for over ten years. "When used during massage," Pressman reports, "the ozonide [the altered ozone in the olive oil salve] enters the tissue and oxidizes lactic acid and toxins, and this has proven to be an effective treatment for many skin problems,"¹⁹⁶ including burns, dry skin, fungal infections, insect bites, sunburn, sweat gland infections, and wounds.

People who are set up to breathe ozone through olive oil can produce a weaker, more runny version of this salve. It's not as good as the thickest, hardest concoction, but even this diluted form of salve has healing properties. As soon as ozone bubbles through olive oil for the purposes of breathing it, the oil becomes chemically altered. As you continue this therapy, eventually the oil becomes thicker and whitish. To make the very hard and even whiter salve, you must have an exceptionally sturdy ozone generator that can be left turned on for three weeks.

Oxygen Supplements

A few companies have created singlet oxygen formulas. Among the most common are magnesium oxide and calcium oxide powders. When mixed in water, they release ozone. Many people find the taste and sensation of these drinks similar to that of hydrogen peroxide—and equally unpalatable. More pleasant products contain *stabilized oxygen*. In most cases, though, ozone is taken in its gaseous form.

Ozone for Purifying Swimming Pools and Hot Tubs

Ozone is unparalleled for decontaminating any contained body of water. Unfortunately, it's relatively unknown and unavailable in the US. However, it's widely used in Europe. In fact, ozone is so common in Europe that when the Olympics was held in America, visiting overseas swimming teams—knowing how poisonous chlorine is—insisted that ozone, and not chlorine, be used to disinfect the swimming pools. (This was done, but after the Olympics ended, the ozone equipment was removed and chlorine was reinstated.) For most industrial uses, it's not critical that the ozone be strictly free of contaminants; but for medical use, the ozone must be pure.

Ozone Generators

To use ozone, you must invest in some type of ozone-producing equipment. Air purification units that emit ozone to help clean up contaminants indoors are useful, but they don't produce enough pure ozone for therapeutic purposes. Ozone equipment that makes medical grade ozone, and in high enough concentrations, can range in price from one to six thousand dollars.

There are several types of units that safely produce ozone. One low-power generator contains a specially designed ultraviolet lamp. It creates ozone from ordinary air by mimicking the activity of the sun. When the unit's narrow band of UV radiation reacts with oxygen, it creates ozone. Such devices are excellent for air purification or modest water purification. However, there's no way to increase the strength of a UV bulb, so the ozone concentrations remain far below what's necessary for most laboratory or clinical purposes.

Many ozone generators on the market utilize the *corona discharge* method, consisting of two metal rods that emit and receive current. Electrons jump from one rod to the other, generating an electrical field. Then the oxygen in the surrounding air splits apart and recombines to form ozone. (For instance, three molecules of O₂ will split and then re-form into two molecules of O₃.) Layers of quartz glass separate the metal rods to prevent the ozone from touching the metal and becoming contaminated. Corona

discharge generators can become quite hot. The heat created by the current tends to convert the ozone back into oxygen, so even more current is required to maintain a high enough ozone level. This is why corona discharge units are equipped with fans.

The better ozone generators on the market utilize the *cold plasma* method. Cold plasma was invented by Nikola Tesla in 1896 to eliminate the problem of excess heat typical of the corona discharge units. Instead of metal rods, he used glass rods filled with noble gas. The gas is a carrier for the voltage that jumps from one rod to another. (This electrostatic method is used for neon signs and some electromedical devices such as the Violet Ray.) When high voltage is sent through the rods, the oxygen between the rods becomes so energized by the field that (as with the corona discharge units) its molecules split apart and recombine to form ozone.

There must always be a source of oxygen in order for a generator to create ozone. Cold plasma technologies can be used for medical applications if they are supplied with pure oxygen. One source is an oxygen tank, which is filled with over 99% pure oxygen and must be refilled once the gas is depleted. Oxygen tanks used by welders contain the exact same high quality oxygen as the much more expensive medical oxygen tanks because welders require pure oxygen for their jobs. An alternative source of oxygen can be supplied from an oxygen concentrator. Using the ambient air in the room, an oxygen concentrator separates the oxygen from the other gases and then sends the concentrated oxygen to the ozone generator. Sending pure oxygen, rather than mixed-gas air, through these ozone generators guarantees that only oxygen and/or ozone are produced, instead of ozone and toxic nitrogen compounds, or ozone and other harmless but unwanted gases. Corona discharge units have high concentrations at low flow rates, and low concentrations at high flow rates.

Silicone tubing is used with all generators. It resists corrosion from ozone.

Ozone Saunas

Sauna therapy (discussed later in this chapter) is popular worldwide for both relaxation and toxin release. It's now becoming more common as well to use ozone in saunas. An ozone sauna is one of the best ways to receive ozone: the gas enters the entire bloodstream *transdermally*, or through the skin, as long as the skin is moist. (Sweating, with the optional addition of steam, will moisten the skin.) Once the pores are open from the damp skin, the ozone is readily transported into all of the tissues, including the lymph and fat. Ozone is especially helpful for cleaning the lymphatic vessels, which tend to get clogged on most

people. And, because fat cells hold the majority of the body's toxins, targeting them with ozone is very helpful. There's no need to be concerned about overdosing. After the bloodstream reaches its natural saturation point, the body simply does not accept any more ozone.

The only type of sauna that should be used with ozone is a cabinet, which allows the head to stick out of the top. An enclosed sauna room should never be used because (as mentioned earlier) ozone should not be inhaled except through olive and other oils.

Traditionally, steam saunas have been used with ozone. The steam opens the pores of the skin, and the heat from the steam also helps induce perspiration. But there's no reason why ozone cannot also be combined with a far infrared sauna cabinet, as long as you're able to sweat. If you have trouble perspiring, shower and leave some moisture on your skin before entering the cabinet. This acts as a "starter" for the body to perspire, but more importantly prepares the skin to accept the ozone.

All sauna cabinets used with ozone must be constructed of an ozone-resistant material. (See my book, *The Holistic Handbook of Sauna Therapy*, for a detailed list of materials.) Place the ozone generator near the cabinet and run the tube from the generator to the inside of the sauna through the opening at the top where the head sticks out. To avoid breathing in ozone, wrap a towel around the opening. A cheaper option than a sauna cabinet is a baggy nylon body suit, which covers the entire body except for the head and hands. The hose is inserted from the machine into any opening in the bag, which is sealed at the neck, wrists and below the feet (usually with velcro) to prevent ozone from leaking. Body suits should be made with ozone-resistant material. Portable, stiff, quilted cloth tents are also available. They fit over the body and allow the head and hands to stick out. Over time, the tents may degrade from the ozone.

Sweating by itself allows toxins to exit the skin without having to be processed (neutralized) first by the liver. Usually, this causes little discomfort. However, a sauna with ozone may cause intense itching because the ozone is rapidly oxidizing large amounts of toxic waste from the fat. The release of the proteinous waste through the skin may cause a very itchy rash. The itching can be alleviated somewhat or entirely by ingesting protease (protein-eating) enzymes—always on an empty stomach, so that the protease won't be used to digest food, but instead will be available to scavenge the debris in the bloodstream. Applying soothing creams or ozonated olive oil to the skin can also help with the itching.

Dr. Pressman suggests taking ozone saunas each day for half an hour, but admits that "the more frequent the

treatments, the more rapid the healing, and the more severe the healing reactions will be. It may become so uncomfortable that the person will need to reduce the frequency of treatments from once daily to once weekly.”¹⁹⁷ Other practitioners prefer a more moderate approach, such as 20 minutes three times a week.

If you have a heart condition, Pressman advises, for the first few sessions stay in the sauna for only 15 minutes, gradually increasing the time to 30 minutes to allow the body to adjust to the thermal stress. He does not advise ozone saunas for people with a history of strokes, because heat causes the blood vessels to dilate, which could potentially loosen another clot. However, he suggests administering ozone in other ways, such as funneling specific organs or areas of the body while in the sauna.

When combined with hyperthermia, ozone works wonderfully to reverse cancer because, Pressman writes:

Cancer tumor cells are tightly packed as they try to force their way in between other cells, and they are thus less able to shed heat. This accounts for the effect that heat stress has in killing cancer. Both heat stress and ozone kill cancer, so this treatment offers the best opportunity to eliminate cells which are fermenting sugar anaerobically, [and to] halt metastasis and restore healthy aerobic function. Ozone is able to seek out and destroy all the cancer cells with more certainty than the surgeon's crude scalpel. In addition, ozone will oxidize the toxins which caused the original problem, and thus prevent recurrence of the problem. This is in contrast to chemotherapy which is massively immune-suppressive, and radiation which causes cancer.¹⁹⁸

Although some of ozone's effects replicate or overlap with the effects of heat alone, the combination of ozone and body heating provides exponential benefits.

Versatile Within Certain Limits

People who don't enjoy drinking hydrogen peroxide, and who have the financial means, can purchase ozone equipment and give themselves ozone therapy for the rest of their lives in the privacy of their own home. Pure ozone—produced without contaminants and used correctly, at the appropriate concentration and flow rate—is safe, with healing applications for a wide range of conditions. However, while ozone works well for bacterial, viral and fungal infections (including cancer), it may not help much for nervous system conditions such as Multiple Sclerosis, stroke and cerebral palsy, or for injuries involving crushed tissue. Most neurological conditions respond better to hyperbaric oxygen therapy (next).

Hyperbaric Oxygen Therapy (HBOT)

Another therapy that uses oxygen is hyperbaric oxygen therapy, or HBOT. *Hyper* means “above” or “elevated,” and *baric* pertains to pressure. The benefits of breathing pressurized air were documented in the late 1660s. In 1834, the first hyperbaric tank was constructed by an iron shop for a French doctor, who reported excellent results treating many conditions. The first North American hyperbaric chamber was built in 1860. The use of HBOT for deep sea divers who surface too quickly from the ocean and suffer from “the bends” has been common since the late 1800s. However, hyperbaric oxygen for serious medical conditions has received professional validation and public recognition only in the last few decades.

For treatment, a person is immersed in an airtight chamber that contains pure oxygen, whose pressure is increased up to two times the normal atmospheric pressure—equivalent to what a scuba diver would experience at about 22 to 30 feet below the water surface. This increased oxygen pressure provides twenty times the normal concentration of oxygen to all the body's fluids and tissues. At the session's end, the oxygen level is gradually brought back to normal and the person leaves the chamber.

Hyperbaric oxygen is becoming more widely used as a therapy. Ordinarily, oxygen inhaled by the lungs is carried throughout the rest of the system by the red blood cells. Sometimes, though an area of the body with an inadequate number of capillaries, or someone with an especially high pathogen count, needs more oxygen than the red blood cells can deliver. “Because HBOT forces oxygen into the body under pressure,” write the authors of *Hyperbaric Oxygen Therapy*, “oxygen dissolves into all of the body's fluids, including the plasma, the lymph, [and] the cerebrospinal fluid surrounding the brain and spinal cord”—places that normally do not carry the gas. “These fluids can carry the extra oxygen even to areas where circulation is poor or blocked.”¹⁹⁹

Hyperbaric oxygen repairs tissue. The April 2006 edition of the *American Journal of Physiology—Heart and Circulatory Physiology* reported that HBOT increases the number of stem cells in the body by 800%.²⁰⁰ Stem cells, undifferentiated in the bone marrow, have the unique ability to travel throughout the body. When they land where they're needed, they become part of the cellular structure of that organ, gland or other tissue. This makes them invaluable for repair during injury and illness. HBOT also stimulates the growth of new capillaries in areas of injury.

Oxygen is vital to our health. It provides the fuel for all metabolic functions, kills many pathogens, strengthens the function of normal tissue, and stimulates growth of new healthy tissue. Thus, HBOT can help with:

- ◆ Injured soft tissue due to degenerative conditions such as diabetes and stroke.
- ◆ Necrotized tissue due to wounds, burns, and abscesses.
- ◆ Inflammation and swelling.
- ◆ Brain and nerve impairment, including from head injuries, brain damage, Multiple Sclerosis, cerebral palsy, and coma.
- ◆ Bone disorders, including fractures.
- ◆ Cardiovascular disorders, including loss of blood and anemia resulting from blood loss.
- ◆ Poisoning and damage from chemo, pharmaceuticals, carbon monoxide, insect bites, and even radiation.
- ◆ Many types of infections, including HIV, *Herpes*, and Lyme disease (however, ozone may be tried first).

Dr. Edgar End, clinical professor of environmental medicine at the Medical College of Wisconsin and Director of the Hyperbaric Unit at Milwaukee County General Hospital, once said: “I’ve seen partially paralyzed people half carried into the (HBOT) chamber, and they walk out after the first treatment. If we got to these people quickly, we could prevent a great deal of damage.”²⁰¹

Oxygen levels in the body just slightly higher than the therapeutic HBOT dose may cause temporary impairment of the lungs, ears, and central nervous system. People are advised to take time between treatments to recover from abnormal pressure to both the eardrum and the eyeballs. Increased oxygen levels mean metabolic changes in the eyes that may cause blurry vision: after 30 or 40 treatments, a few people have reported permanent nearsightedness (although HBOT is known for helping to restore vision after a stroke). *These unwanted “side” effects do not occur at lower pressures.* There are virtually no risks to HBOT if the right equipment is used in the correct manner.

The two classes of hyperbaric oxygen equipment are expensive, high-tech units used in hospitals, and chambers for the layperson. Machines designed for hospitals, which use more air pressure than home units, are potentially dangerous (which is why the therapy must be administered by qualified medical personnel). HBOT chambers for the home are incapable of administering too much oxygen because they’re designed for consumer safety.

For people who can self-treat—or receive help (if needed) to enter, leave and operate the chamber—a portable home cabinet is a wise purchase, especially if they need HBOT therapy on a regular basis. A one-time purchase (\$5,000) is less expensive than repeatedly seeing a doctor. Some companies rent HBOT units.

COLLOIDAL SILVER

History of Silver Therapy

For centuries, silver in various forms has been used for healing. The ancient Greeks and Romans used silver jars to keep stored liquids fresh. They wore silver frequently, perceiving that it maintained health. European royal families did not become as infected by the plague because they used silver utensils and ate off silver plates. And during the 1800s, American pioneers kept silver dollars in their milk jugs to prevent the milk from fermenting or spoiling. Silver coins were also dropped into water barrels to impede the growth of microorganisms and algae.

One of the first recorded medical uses of silver dates back to 1834, when a German obstetrician named F. Crede administered a 1% silver nitrate solution into the eyes of newborns to prevent blindness caused by eye infections. This practice continues today in hospitals worldwide. The Russians, as well as the National Aeronautics and Space Administration (NASA) in the US, revolutionized the water purification industry by using silver ions to purify the water in spacecraft. Today, water filters impregnated with silver are standard equipment in water filters.

The bulk of serious scientific study on silver appears to have begun in the early 1900s, with research correlating low plasma silver levels with infections. Versatile silver proved to be an effective healer when applied both internally and externally. It was put into the eyes, orally ingested, spread inside the nasal passages, applied to all kinds of wounds, and rubbed on the skin. It continued to be used therapeutically until the late 1930s.

In the 1940s, when the pharmaceutical industry began to create and promote synthetic antibiotics, silver as a healing agent became hard to find and its merits were no longer publicized. Silver’s fading popularity was also related to the forms in which it was being used. This was because it was combined with other substances to form compounds: silver proteins, silver nitrate, and other silver salts. Mild silver protein (MSP)—silver that’s bound to protein-rich gelatin to keep the large particles suspended in fluid—was common. It had such a low particle surface area that it was almost unusable by the body. Also, in some cases the proteins in MSP provided food for bacteria (thus encouraging their growth), and encapsulated the silver particles (preventing them from touching and thus killing the bacteria). Today, silver products over 100 ppm are likely to be MSP, and some MSP products are as high as 20,000 ppm. Silver compounds are less effective than pure *colloidal* or *ionic* silver, which are not combined with other substances. However, decades ago no reliable technology to make good quality silver fluid existed.

In the United States, colloidal silver is not approved for medical use. Companies that sell CS or the equipment to make it are forbidden by the FDA to tell the truth about colloidal silver's healing properties. Nevertheless, this has not stopped pharmaceutical companies from producing *other* silver products that *are* approved for medical purposes. These products include silver gels and creams (such as the widely used silver sulfadiazine) for cuts, burns and wounds; silver coated bandages, extensively and successfully used in hospital burn units; and various other silver compounds. The existence of these products makes it difficult for government agencies to continue to deny the health benefits of silver.

Disabling Pathogens

Silver is a broad-spectrum, safe, effective substitute for allopathic antibiotics. Research conducted since the 1970s has shown that silver:

- ◆ Deactivates the enzymes that microorganisms need for respiration. Because pathogens are suffocated rather than poisoned, resistant strains are unlikely to form (which happens with allopathic antibiotics).
- ◆ Oxidizes the pathogen in ways similar to those of hydrogen peroxide or ozone.
- ◆ Binds to the cell walls of bacteria, which prevents them from functioning properly and ultimately causes their death.
- ◆ Replaces sulfur and other substances in the cell wall that pathogens need.
- ◆ Repairs broken DNA of a virus—thus rendering it dysfunctional—because a virus, by definition, can only function inside a host if its DNA is incomplete.
- ◆ Weakens biofilms created by some pathogens such as *Staphylococcus aureus*. (See Chapter 5 for more information on biofilms.)

Here is just a small sample of the scientific proof that silver destroys bacteria, viruses, and many fungi—in fact, virtually any single-celled pathogen within minutes. In 1976, an article was published called “Antifungal Properties of Electrically Generated Metallic Ions.”²⁰² A 1978 *Science Digest* article reported that silver kills over 650 pathogenic microbes, and cited doctors who had developed silver compounds (and received the FDA's endorsement).²⁰³ A 2005 study showed that a silver ion solution destroyed *E. coli* by “readily” entering its interior.²⁰⁴ And in 2006, the *American Journal of Nursing* stated:

Silver is a broad-spectrum agent effective against a large number of Gram-positive and Gram-negative microorganisms, many aerobes [living in the presence of oxygen] and anaerobes [living in the absence of oxygen], and several antibiotic-resistant strains such as methicillin-resistant *Staphylococcus aureus* and vancomycin-resistant enterococci.²⁰⁵

The authors of a 2008 study, “Antibacterial Activity and Mechanism of Action of the Silver Ion in *Staphylococcus aureus* and *Escherichia coli*,” declared bluntly that there was a “significant reduction” in pathogens after a 90-minute treatment from “a silver ion solution that was electrically generated”—in other words, colloidal silver. “Transmission electron microscopy showed considerable changes in the bacterial cell membranes upon silver ion treatment.”²⁰⁶

Despite silver's versatility in killing bacteria and viruses, it cannot kill complex, multi-celled worms and similarly large parasites. However, it can kill the bacteria and viruses living *inside* the parasites. And although CS seems to help prevent viral infection, it may be less effective once an infection has become established. However, in such cases CS does prevent secondary infections from bacteria. It even helps improve the performance of pharmaceutical antibiotics. This makes it especially helpful for stubborn, drug-resistant infections.

Colloidal silver affects single-celled microorganisms *as long as it can physically touch them*. So, even though CS cannot disable pathogens in solids such as bone and feces, it *can* easily disarm them in liquids such as water, blood, urine, and lymph. If you take CS on an empty stomach, it will directly contact any *Helicobacter pylori* that's present (*H. pylori* is responsible for ulcers and stomach cancer). And CS traveling directly to a relatively empty gut, with no stool to block its passage, will kill unwanted microorganisms there that cause food poisoning and dysentery, such as *Giardia*. Similarly, in the laboratory, silver cannot affect pathogens in a solid, gel-like nutrient agar, but it *will* affect the ones living in a nutrient *broth*.

Just a few conditions that have been partially or completely eradicated by CS are gastrointestinal disorders (including diverticulitis and salmonella), hepatitis and other liver conditions, Lyme disease, malaria, pancreatitis, respiratory problems such as emphysema, *Herpes* virus ailments, the SARS virus, and Ebola.

Researchers at the University of Texas and Mexico University began using silver to kill *Staphylococcus aureus*. The *Journal of Nanotechnology* reported that silver particles killed 100% of the HIV-1 virus (incubated at 98.6°F or 37°C) within 3 hours—and that silver was expected to kill every other virus as well! The authors wrote, “The strong toxicity that silver exhibits in various

chemical forms to a wide range of microorganisms is very well known. . . . Silver nanoparticles interact with the HIV-1 virus via preferential binding to the gp120 glycoprotein knobs. Due to this interaction, silver nanoparticles inhibit the virus from binding to host cells.”²⁰⁷ (The scientists called the minuscule units of silver “nanoparticles”; but the silver particles ranged in size from one to ten nanometers, which are the sizes of silver *ions*, one of the two particle types in colloidal silver. Therefore, this “nanoparticle” label appears to have been incorrect.)

I’ll tell you shortly how you can make your own silver solution; but first, I want to discuss how silver can eradicate cancer, and its effects on immune response.

Enhancing Immunity

For a decade or so, the chemists, holistic health aficionados, and adventurous do-it-yourselfers in the global grassroots colloidal silver community enthusiastically focused on the pathogen-killing power of CS. Then they discovered that in addition to killing one-celled microorganisms, silver supports immune function.

Newer research, published in the European journal *ChemMedChem*,²⁰⁸ shows that silver modifies the effects of *cytokines*, small proteins that are involved in all types of immune and inflammatory responses. While small amounts of cytokines helpfully bring white blood cells to an injured area of the body, too many cytokines cause inflammation. Silver reduces the inflammatory response and increases the rate of healing. Inflammation both contributes to, and directly causes, many diseases and degenerative conditions; so using silver for healing shows great promise. If the immune response is more efficient, viruses can be eliminated even more quickly. (Note that although the article refers to silver “nanoparticles,” it states that their measurements are under 100 nanometers. Again, this is the size of *ionic* silver, so perhaps the researchers were lax in the term they used. Many people incorrectly refer to ions as “nano.” See Insert on page 405, “Saying No to Nano.”)

People who are seriously ill may be deficient in silver. This trace mineral is apparently an essential micro-nutrient.

Normalizing Cancerous Tissues

Silver’s immune supporting function is directly related to its ability to reverse the progression of cancer cells. This was discovered over 30 years ago by medical doctor Robert O. Becker. A highly credentialed clinician, professor and researcher, Becker taught at Upstate Medical Center in Syracuse, New York; was Director of

Orthopedic Surgery at Syracuse’s Veterans Administration Hospital; and wrote two books on electromedicine.

Dr. Becker began working with silver in 1971. He was trying to ascertain whether minute amounts of electrical current could cause rats to regenerate limbs, hoping that this would prove useful in healing broken bones in humans. Becker used silver for the electrodes instead of other metals because he believed that silver was not chemically reactive with the body’s tissues, and that it would also transmit current more efficiently.

After numerous tests, Becker concluded that the silver ions produced by the current, along with the current itself, were responsible for stimulating the normal growth of human tissue (including the regeneration of bone and skin). The silver ions reduced healing time by 50%. A paper published by Becker, Berger and colleagues in 1976, “Electrically Generated Silver Ions: Quantitative Effects on Bacterial and Mammalian Cells,”²⁰⁹ described how, compared to an inferior silver *compound* (silver sulfadiazine), silver *ions* inhibited the proliferation of bacteria between 10 to 100 times more effectively—and without any negative effects on normal mammalian cells.

Becker also discovered something else: When silver was injected, *it caused cancerous tissue to become normal again*.

As [ubiquitous] human fibroblast cells . . . were exposed to the electrically generated silver ions, they dedifferentiated. They were then able to multiply at a great rate, producing large numbers of primitive, embryonic cells in the wound even in patients over 50 years of age. These “uncommitted” cells were then able to differentiate into whatever cell types were needed to heal the wound. *So what we were in fact doing was turning on regeneration in human tissues.* . . .

This circuitous pathway led us back to one of our original aims, the control of cancer growth. If the electrically generated silver ion dedifferentiated normal human fibroblast cells, would it also dedifferentiate human cancer cells? . . . We did find that some human cancer cells in culture appeared to dedifferentiate when exposed to these silver ions. . . . It is important to realize that this is not simply an electrical effect, but the result of the *combined action of the electrical voltage and the electrically generated silver ions*. [emphasis added]²¹⁰

Most laypeople, and even doctors, have not heard of Dr. Becker. As his experiments became more promising and known, his research funding was abruptly withdrawn.

In addition to being ingested and applied externally in poultices, CS can be injected intra-muscularly or

intravenously. Health practitioners generally add a very pure silver solution to sterile physiological saline, or to Ringer's Solution (which contains 9,000 ppm of sodium chloride). Some researchers have reported that tumors and polyps shrink when CS is injected directly into them.

Contraindications

If made and used properly, colloidal silver has no negative effects on humans, animals, or plants. Very high amounts of CS use up the body's store of selenium, probably in similar ways to how large amounts of some nutrients can unbalance levels of other nutrients. Therefore, extra selenium should be taken. Selenium is most abundant in Brazil nuts and meats, although the amount of selenium in the soil determines how much of the mineral will be in plants and in the animals who eat the plants.

CS taken on an empty stomach will travel straight to the intestines. This is very helpful if you're suffering from food poisoning or dysentery. But what if you aren't? How might CS affect *beneficial* intestinal flora? Sources differ as to whether CS destroys beneficial flora. Most CS users don't experience digestive upset, but a few do. You can reestablish the intestinal flora population by ingesting yogurt or probiotic supplements several hours away from when you take the silver. If you drink CS when there's food in your stomach, the chances are slim that you will depopulate your intestinal flora. (Septic tanks, which house digestive waste, utilize friendly flora to break down the fecal material. So, if your home uses a septic system, don't pour CS down the sink or toilet.)

Common sense tells you to *avoid using CS if you're allergic to silver*. Silver allergies are rare, but for those who are allergic, reactions can be severe. As a precaution, put a few drops of CS on your tongue and wait for an hour. If there's no discernible reaction, take ½ teaspoon and hold it in your mouth for a few minutes before swallowing. If you're allergic, your response will be rapid and obvious. Some signs of allergy include a racing pulse, flushing, and burning, itching, red skin. Significantly, records of allergy to silver focus on sterling silver jewelry. It's not the silver to which people tend to react, but the nickel that's included in the mix of metals (sterling isn't pure), which makes the naturally soft silver harder and more durable.

An allergic response should not be confused with symptoms of die-off, also known as a *Herxheimer* reaction. Due to an overload of toxic waste from dead and dying pathogens, symptoms often worsen before people feel better. Large amounts of CS can kill pathogens so well that sometimes the body is overloaded. Toxic material is eliminated via the colon, kidneys, lungs, and skin.

Therefore, cleansing reactions can be as varied as diarrhea, excess production of mucus, sneezing, coughing, stuffiness, post-nasal drip, and itchy rashes. Keep in mind that if toxins are emerging through the skin, they are probably circulating in the blood too; and if toxins are that plentiful in the bloodstream, they might be excessively straining the liver and kidneys. Many people who are ill already have a weak liver and/or kidneys, so it seems wise to proceed slowly (good advice for any detoxification program).

A cleansing reaction may feel not only uncomfortable, but also scary, to those who aren't used to detoxing and don't understand how to interpret symptoms from the body's expulsion of toxic wastes. If you are feeling weak before you start, begin with a tiny amount—¼ teaspoon is plenty!—and slowly increase the amount according to your tolerance. If you have too strong a response, reduce or temporarily stop the CS until the healing crisis is over, and start taking it once more—again, in smaller amounts. Carefully monitor your responses. If you feel too ill, see a health practitioner. When I began taking CS, all I could manage was ½ teaspoon in 8 ounces of water, two or three times a day. Now I can drink an entire glass of pure CS at once, and feel only relief.

Making Colloidal Silver, and Particle Size

CS is a nearly tasteless, clear fluid. It's made by passing a mild electric current through two parallel wires of at least 99.9% pure silver, partially immersed in distilled water. This process yields a concentration of silver from 5 ppm to 15 ppm, a dilution that's effective for most purposes.

A number of companies sell reasonably priced, quality CS generators (see Appendix A). There are also plans on the Internet showing how to make your own generator for about ten dollars in parts. Fancier manufactured generators may have polarity switches, meters to measure the strength of the solution, and/or automatic stirrers.

To make safe, effective and stable colloidal silver, at least 99.9% pure (*not* sterling) silver must be used. Silver alloys such as sterling are legally allowed to contain large proportions of nickel and other metals, which can be toxic if ingested. Also, distilled water must be used. Spring, electrolyzed, or filtered water—even though suitable for drinking—contain dissolved minerals. Minerals are unwanted because they add excess electrical charge that speeds up the CS-making process too quickly and creates silver particles that are too large to be effective.

For the same reasons, never add salt or baking soda to the water when making CS! These items produce an inferior form of silver solution that may cause one's skin to turn gray (discussed in detail shortly). If you want to

Saying No to Nano

In the last decade, nanotechnology has been steadily impacting what we ingest and use daily. From personal care products and foods to paper, tennis rackets, epoxy resins and batteries, nano particles too small for the eye to see have migrated into thousands of products—and are entering our food supply at a rate of three to four per week. As with GMOs, cloned animals, pesticides and other items not adequately tested—or, if reported to be harmful, are approved for public use anyway—nano particles are not benign. In most cases, they are dangerous. Take titanium. Due to its superior ability to refract light, it gives the appearance of whitening or brightening. It's not only in paints, plastics and ceramic glazes, but also the coating on pills, skin creams, sunscreen, toothpaste, chewing gum, and even milk (presumably to improve its appearance and texture). An August 2013 study in *Biomedicine and Pharmacotherapy* concluded that titanium causes cancerous tumors.

Nano and *nanotechnology* are derived from the word “nanometer,” which is a billionth of a meter (about one 25-millionth of an inch). Larger than an atom or molecule, an ultra-fine nanoparticle is still much smaller than everyday objects. Nanoparticles range in size, but at least one part measures fewer than 100 nanometers.

The problem is that nanoparticles *almost* exist in the quantum realm. With particles this incredibly small, but not quite atomic, the usual rules of physics no longer apply. A substance's properties can change, often in unexpected ways. For instance, at the atomic level, all gold atoms behave the same way. And nuggets of gold large enough for us to hold exhibit the same chemical and electrical properties as each other. But at the nano level, two gold particles can exhibit markedly different color and behavior—different electrical conductivity, different melting temperatures, etc.—even if the particle sizes vary just a little. Nanoparticles have a greater surface area per weight than larger particles, so they are more reactive to other substances.

Some people are eager to alter the laws of physics and chemistry. For instance, one substance that has been nano-sized is aluminum. Ordinarily a soft metal, a nano aluminum alloy is stronger than steel. But while these quirky qualities might benefit industry, there are also serious dangers—precisely because the qualities of a substance can change so radically. The behavior of tiny, unpredictable nano particles cannot be controlled.

A quick glance at the MSDS (Material Safety Data Sheet) for just a few nanotechnology substances is very revealing. The MSDS is a legally mandated guide for industry employees who either manufacture or work with an ingredient. Nanoparticle MSDS documents report that routes of entry into the body are via inhalation, ingestion and skin absorption. Nanoparticles are so volatile, they

act like a gas instead of a solid, which is why they so easily penetrate skin, lung tissue and cell membranes! According to the MSDS for one company's nano gold, the toxicological effects have not been thoroughly investigated, exposure may be harmful, and a physician should be called. As is stated on an MSDS for nano iron, all employees handling this substance should work in a well ventilated room, and wear gloves, safety goggles and other protective clothing. With nano iron, the MSDS advises, exposure through ingestion may result in nausea and cramping; and after inhalation, skin contact or eye contact, a physician should be consulted.

Nanotubes (shaped like cylinders) behave similarly to asbestos fibers. Asbestos is a silicate mineral whose resistance to fire, heat, electricity and chemical damage made it ideal for use as electrical insulation starting in the late 1800s—until it was realized that prolonged inhalation of asbestos fibers causes serious lung damage, including lung cancer. Asbestos was finally restricted or banned altogether in the late 21st century. But now we use nano particles, which behave in some ways like asbestos but are freely used in industry anyway. These nanoparticles can be in the shape of claws, hooks, and wires as well as tubes.

Consider the incredible damage from minuscule claws, hooks and wires that slip through the skin and mucous membranes. Such tiny particles can disrupt cellular function without initially causing easily perceptible clinical damage. In fact, it might take years for a specific “disease” picture to develop. As if vaccines weren't already unsafe, nanoparticles are now being used to provide a delivery system for a virus. But the immune cells cannot recognize nano particles, and thus will be unable to eliminate what doesn't belong in the body.

Some manufacturers falsely (and foolishly) claim—perhaps to impress the public—that their items contain nanotechnology. What about claims of nanotechnology for silver products? Ironically (and to their detriment), some CS companies are calling their silver “nano” when the products, created by electrolysis, contain the normal, expected, safe mixture of atoms and ions. The CS particles that are *ions* (atoms with a charge) are less than 0.015 microns, an already tiny and absorbable size (1 nanometer = 0.001 microns). Literature for one nano silver product professes antibacterial, antiviral, antifungal and antibiotic properties when the silver is incorporated in coatings, bandages, dressings, plastics, textiles, fiber and soaps. These claims are correct; but homemade CS also performs these functions.

Some studies suggest that true nano silver—whose molecular shape by definition can be manipulated—might not be completely safe. Because nano silver is manipulated, it can be patented (and costs more). Homemade colloidal silver can't be patented. And it's very inexpensive to make.

make CS quickly, use some already-made CS as a “starter,” much as one adds a bit of already-made yogurt to milk to accelerate the fermentation process when making yogurt from scratch. Or, heat the water in a glass or ceramic pot. Heat makes the water more conductive, and will therefore speed the CS-making process.

Make sure to *clean the electrodes after every batch*, using a minimally-abrasive scrub pad. Electrodes build up a residue of silver particles. If the electrodes are coated, they won’t produce CS with an effective particle size.

A safe and effective silver preparation contains particles less than 0.015 microns in diameter, as well as silver atoms and ions whose diameters are as small as 0.230 nanometers. Both the colloid and (smaller, charged) ionic particles contribute to the solution’s effectiveness. They are readily absorbed and transported throughout the body, and are safely excreted by the eliminative organs.

The term *colloidal silver* is used by many researchers, vendors and users to refer to a number of different medicinal preparations that feature some form of silver, suspended or dissolved in a liquid (usually distilled water). One writer explains the various terms:

The word “colloidal” refers to a condition where, in this case . . . [groups of silver atoms bonded together, called *colloids*, are] *suspended* in a liquid . . . The solid particles are too large to be considered *dissolved*, but are too small to be filtered out. This colloidal condition is most easily detected by what is called the “Tyndall effect,” where . . . [an LED or laser] is shined through the liquid to produce a cone shaped dispersion of the light. The particles so illuminated also exhibit a random, zig-zag activity called “Brownian motion” when observed under a microscope. When something is completely dissolved, both the Brownian and Tyndall effects disappear.

The word “ionic” refers to a condition where a particle has an electric charge. In the case of “electro-colloidal” silver, this electric charge is *always* positive. . . . Electro-colloidal silver is [comprised of] *both* colloidal and ionic [particles]. . . . In fact, most of the biological studies suggest it is colloidal silver’s ionic characteristics that make it such a good germicide.²¹¹

We may only have scratched the surface of silver’s medical brilliance. Already it is an amazing tool! It stimulates bone-forming cells, cures the most stubborn infections of all kinds . . . and stimulates healing in skin and other soft tissues. I know of nothing which could quite take its place. Nor have I known anyone to abandon it who had thoroughly familiarized himself with the technique of its application.

—William Halstead, MD
a founder of modern surgery
(born 1948)

The global grassroots CS community (which has a large Internet presence) agrees that a more accurate name for “colloidal silver” is *electrolytically isolated silver* (EIS), because technically, what is being produced consists of about 80% to 90% ions. However, as “colloidal silver” is used generically by the majority of users all over the world, I will use the same term. Note that a silver fluid made by the EIS process is *very different* from mild silver protein, a product made by chemically combining silver with proteins or other additives. (I’ll discuss silver compounds in a moment.)

One chemist specializing in colloidal silver points out that both ionic and colloidal (larger-particle) silver kill pathogens, with some differences.

Ionic [silver] promotes healing and prevents scar tissue by allowing injured cells to revert to stem cells. Colloidal [silver] helps prevent argyria [a blue-gray discoloration of the skin] by providing seeds for the silver compounds that are eventually made in the body from ionic [silver], something to plate out on. Best is a combination of them both, with about 10% to 20% being colloidal.

Smaller particles affect viruses better than larger ones. Lower ppm EIS tends to have smaller particles. Higher ppm EIS can have a little hydrogen peroxide added to it to make the particles smaller, and thus be even more effective.²¹²

Argyria, CS Toxicity Propaganda, and the Problem with Silver Compounds

No toxic levels are known for properly made colloidal silver. The only known “side” effect of silver is *argyria*, a blue-gray discoloration of the skin or of the conjunctiva of the eye (where it’s called *argyrosis*). Although cosmetically upsetting, argyria doesn’t cause tissue damage or interfere with metabolic functions. Argyria typically occurs with silver *compounds*, not colloidal or ionic silver. And, although argyria can very occasionally occur with properly made EIS, quarts would have to be consumed daily for years.

Argyria typically occurs when large-particle silver, or its compounds, are ingested over such a long period of

time that the body's natural ability to excrete the silver through urine and feces is completely overwhelmed. Large silver particles, and/or silver salts, are deposited in the skin and other tissues, forming photosensitive compounds that darken upon exposure to bright sunlight. There are a few reports of argyria occurring in Caucasians, but no known cases among other races.

Argyria is very rare. Most recorded cases are the result of occupational exposure and the use of medically prescribed, high-concentration silver salts during the early to mid 20th century. Modern cases usually involve high concentrations of silver compounds. None of these cases involve properly made silver colloid that's used correctly.

I am aware of only three widely publicized reports of argyria. The first case involves a woman, born in 1942, who was prescribed nose drops at age 11 for allergies. By age 14, she had turned markedly gray. She cannot identify the exact medicine or the quantities used, but it's certain that she used a silver compound—not low-concentration, electrolytically produced CS. We know this because one, the colloidal silver making process had not yet been perfected when she was a little girl; and two, prescriptions using silver at that time could only have been compounds. Suffering lifelong ridicule due to her skin color, she has become a vocal opponent of all forms of silver.

In the second case, a 2002 Senate candidate from Montana, United States, developed a slight bluish discoloration that was visible on his fair skin under certain lighting. This discoloration came from his homemade brew that he erroneously called “colloidal silver.” It was not widely publicized that he made his concoction with tap water, electrically suffused his batches for one hour until they looked like coffee, and drank 8 ounces a day for two years. This brew was not CS!

The third incident concerned a fair-skinned man whose skin had turned markedly blue after many years of ingesting, and putting on his skin, a homemade silver solution he had created using salt. The salt made this substance a silver compound, not colloidal silver. In 2007, major US news networks interviewed the late Paul Karason about how he had adapted to life as a blue-skinned man who wasn't always accepted by others. What began as a human interest story on tolerance quickly turned into a review of the presumed dangers of colloidal silver, because that's what had supposedly caused Karason's skin discoloration. Despite overtures to Karason—by both CS manufacturers and individuals (such as myself) who wanted to help—he showed no interest in making CS correctly.

Despite the nontoxic nature of CS, the pharmaceutical industry, FDA, and their allies continue to mislead the public about CS. They warn that *all* homemade silver

solutions are toxic, citing studies that were conducted with silver *compounds*—and then deliberately fail to distinguish between the different forms of silver. A surprisingly large number of researchers erroneously refer to ionic and/or colloidal silver as “metallic,” which confuses the issue even more (and may deter the general public from making and using this inexpensive, effective ingredient). In the pseudo-scientific articles that warn against the one potential “side” effect of argyria—just one, I might add, compared to the nearly unlimited negative effects of toxic drugs!—the authors fail to disclose some vital facts:

- ◆ Most of the reported cases of argyria occurred in the 1920s and 1930s and involved manufactured pharmaceutical products.
- ◆ The technology used in early colloidal products was very crude, resulting in very large particles, high concentrations, and large doses of silver.
- ◆ Most early preparations were concentrated silver *compounds*, again resulting in very large doses of silver. Some of the more common silver compounds are silver nitrate, silver sulfide, silver chloride, silver sulfadiazine, and silver proteins (including MSP).
- ◆ Silver compounds have a potential to cause skin discoloration, but they may or may not cause it.
- ◆ In order for skin discoloration to take place, the product has to be used faithfully every day over a long period of time—two years or more—and the amount used must be substantial.
- ◆ The type of product used, how it's manufactured, and the quantities consumed are not mentioned. Also concealed are obvious flaws in the product's quality and intended use, as well as the differences between products that cause argyria and properly made CS.

Typically, the mainstream media prefers to present sensationalized stories about holistic technologies instead of seriously investigating them. I have never seen TV report the findings of Dr. Samuel Etris, a senior consultant at the Silver Institute, who states that there has never been any allergenic, toxic or carcinogenic reactions to CS. It's also doubtful that TV viewers are aware of the World Health Organization's upper limit recommendations for colloidal minerals, including silver: “It is unnecessary to recommend a health-based guideline value for [them] . . . because they are not hazardous to human health at concentrations normally found in drinking water.”²¹³

To be fair, the levels of colloidal silver that are drunk for therapeutic purposes are higher than those found in

drinking water rich in trace minerals. So, when discussing argyria, *how much* silver would be considered a toxic load?

Alexander G. Schauss, PhD—former professor at John Hopkins University, innovative researcher and expert on silver, and director of the *International Journal of Biosocial Research* at Life Sciences American Institute for Biosocial Research in Tacoma, Washington—explains in detail how and why the argyria scare became so widespread.

Most cases of argyria reported in the medical literature over the last 100 years involved chronic intravenous or intramuscular use of the silver preparations, most often involving a silver drug prescribed by physicians which in most cases contained silver nitrate. Other cases of argyria reported in the medical literature involve application of silver preparations used for many months or years in the treatment of the eye or vagina for certain diseases. We could not locate a single case of orally consumed colloidal silver manufactured in the last 25 years causing argyria in our review of the literature. This is probably due to the low levels of silver contained in such preparations, since only very small amounts of silver are needed for its antiseptic effect. Humans consume approximately 100 micrograms of silver every day in the diet. Additional amounts within this range would be considered safe by all reasonable estimates, especially if the amount needed to develop argyria would be equivalent of 380,000 micrograms (or 3.8 grams) of silver a day.²¹⁴

Again, low-concentration colloidal silver usually doesn't cause argyria (unless possibly gallons are drunk every day for years). However, argyria can occur if the CS is *improperly made*—such as when contaminated or mineralized water is used, or an ingredient such as salt is added to the fluid when the electrodes are running. Argyria is also more likely to develop if silver-and-salt solutions and silver proteins are used for long periods.

Occasionally, an article is published in a medical journal that accurately compares CS to silver proteins. In the *Annals of Occupational Hygiene*, the abstract of a 2005 article, “Exposure-Related Health Effects of Silver and Silver Compounds: A Review,” states that “exposure to soluble silver compounds may produce . . . liver and kidney damage, irritation of the eyes, skin, respiratory, and intestinal tract, and changes in blood cells . . . [while ionic] silver appears to pose minimal risk to health. The current occupational exposure limits do not reflect the apparent difference in toxicities between [these two types of silver].”²¹⁵ And in 2008, some dedicated researchers discovered the “Antibacterial Activity and Mechanism

of Action of the Silver Ion in *Staphylococcus aureus* and *Escherichia coli*.” They not only differentiated between the different forms of silver (“silver metal, silver acetate, silver nitrate, silver protein, and silver sulfadiazine”), but they stated that after a 90-minute treatment from “a silver ion solution that was electrically generated”—in other words, electrolytically isolated silver, or colloidal silver—“transmission electron microscopy showed considerable changes in the bacterial cell membranes upon silver ion treatment. . . . *the electrically generated silver ion appeared to be superior to the silver compounds in antimicrobial activity.*” [emphasis added]²¹⁶

Properly made colloidal silver does not contain flakes or turn dark. If it does, noticeable particles will settle in the solution over time. This fluid is not worth drinking. The particles are too large to be of therapeutic value, and your body will have to work harder to excrete them. You could try using the fluid for bathing, poultices or cleaning, but it won't work as well as smaller-particle silver solution because the therapeutic value of CS depends on its micron size. In fact, it very likely won't work at all.

Mainstream clinicians believe that argyria is irreversible. But holistic researchers have been able to eliminate the discoloration (or at least reduce it substantially) through detoxification and sauna therapies. In the unlikely event that your skin does become discolored, try the protocol in the Insert, “How to Reverse Argyria.”

Colloidal Silver Generators for Home Use

In the US, colloidal silver preparations between 5 ppm and 15 ppm can be bought at the health food store for about twenty dollars an ounce. This cost is excessive, considering that a seriously ill person needs to drink 1 cup or more of CS each day until the condition clears. Mild silver protein (MSP), colloidal silver protein (CSP), and products containing various silver salts are actively discouraged. They're unsafe (as they tend to promote, rather than deter, bacterial growth), and they're not as readily used by the body. Despite these drawbacks, many companies claim that their silver compounds are superior, luring uneducated customers to pay exorbitant prices for inferior products.

High-priced silver fluids are unnecessary! All you need to make your own CS is a generator, distilled water, plastic storage bottles, and an optional ppm meter so you can monitor the concentration of CS batches. (In a generator with a built-in monitor, an external one is unnecessary.) You can buy a CS generator with pure silver wire for under one hundred dollars. Instead of purchasing distilled water in soft plastic containers (whose molecules leach into the water), you can buy an inexpensive distiller.

How to Reverse Argyria

Introduction

Periodically, negative publicity emerges on the presumed dangers of colloidal silver—specifically, its ability to turn skin gray, a condition known as *argyria*. While argyria can and does occur, it is actually quite rare. The purveyors of this negative, emotionally-laden—and mostly inaccurate—hype focus on the shock value of argyria. They fail to mention that except for the cosmetic considerations, argyria is harmless. And they don't mention the causes of argyria—that skin can turn gray due to prolonged use of the *wrong types* of silver, and that it's rarely due to properly made electrolytically isolated silver (also known as *colloidal silver*.) By the time a silver color is visible in the skin, the buildup of silver in the body is quite extensive and has occurred over long periods of time, even several years. In order for argyria to occur, usually silver compounds—such as silver proteins and silver salts—must be used on a continual basis. Or, quarts of improperly made silver solution must be drunk every day. *The development of argyria depends on the type of silver that's ingested and how long it has been used.*

Colloidal silver, which is not bound to other elements, is normally excreted from the system very easily. But silver that's bound to other elements is much more difficult to excrete. Also, people with a slower metabolism are more susceptible to developing argyria because they don't eliminate silver as quickly as their faster-metabolism counterparts. If thyroid-lowering foods (such as soy, or raw goitrogenous vegetables), or any drugs (such as the antibiotic doxycycline) are taken, one's metabolism will be lowered—thus making one more susceptible to accumulating silver in the body. Liver impairment will also slow the metabolism of silver.

Typically, the people who needlessly instill the fear of argyria in others, conspicuously omit the fact that this discoloration can be reversed.

The Protocol

One very important piece of information on how to remove silver from the tissues and reverse argyria comes from, of all places, the United States Environmental Protection Agency. People with low levels of Vitamin E or selenium (a mineral)—both antioxidants—may have an increased risk of argyria because these nutrients support cellular energy production, which would help the body escort the unwanted ingredients out of the system. Keep in mind that silver is *not* a heavy or toxic metal. It's classified as a *transitional* or *noble* metal, which has very different properties from heavy—toxic—metals.

The following slow, but effective, protocol is adapted from Dr. Schauss, medical doctor Hans Gruenn, and activist Mark Metcalf, who has helped thousands of people become more educated and empowered by writing about the benefits of colloidal silver. To reverse argyria, take the following every morning with 1 quart (liter) of water.

- ◆ 200 mcg of yeast-free selenium (safe to take on an ongoing basis).
- ◆ Vitamin E, 100% mixed natural tocopherols (d-alpha, beta, delta and gamma tocopherols). High doses of Vitamin E thin the blood, so ask your doctor if it's safe for you to take it on an ongoing basis. People over 50 years old who may be at risk of stroke should take no more than 1000 IU. Those under 50 years old, and not at risk of stroke, can take 2000 IU per day. Vitamin E may be contraindicated in people on medication to thicken the blood, in people with hemophilia, and in others considered at risk for conditions that don't respond well to Vitamin E.
- ◆ 2 teaspoons organic MSM (methylsulfonylmethane). MSM, which is a sulfur compound, binds with silver and helps pull it from the body.
- ◆ 4,000 mg (4 grams) of vitamin C per day, in 1000-mg (1-gram) doses each. As long as you don't get diarrhea, you can take more Vitamin C until you reach bowel tolerance.
- ◆ 1 high-potency Vitamin B-complex tablet, 100 mg.
- ◆ 1 teaspoon kelp powder. (You might also be able to substitute ¼ to 1 teaspoon of liquid colloidal iodine.)
- ◆ Liquid or ionic minerals, including trace minerals, 2 ounces or more a day. A mineral formula containing fulvic acid works better than one without fulvic acid. (Fulvic acid is a combination of acids with high oxygen and high ionic mineral levels. Fulvics are used to nourish both the soil and humans, as they easily pass across cell membranes.)

In addition to the water taken with the supplements, drink another ¾ gallon (6 quarts or liters) of water a day.

—adapted from silvermedicine.org/forum/viewtopic.php?t=13 and silverprotects.com/argyria.html

After your initial investment, the price of a quart of CS is pennies instead of hundreds of dollars. Considering the effectiveness of CS as an antimicrobial agent, it's one of the most cost-effective protocols you can utilize.

There are different styles of colloidal silver generators on the market. All of them operate on the basic principle of sending electrical current through 99.9% pure silver electrodes to pull tiny silver particles and ions from the wires into the distilled water. The smaller CS generators, about the size of a boxy cell phone, have a simple on/off switch and usually, a light flashes on when the silver has reached a certain concentration. If the user wants a higher concentration, the unit is turned off to reset the unit, and a second round of electricity brings the concentration up. If a higher concentration is wanted, the unit is again turned off, and a third round of current is introduced. Generally, such units can make about a gallon at a time. Professional size CS generators are essential for clinics, where large numbers of clients make it necessary to produce a gallon or more of 12 to 15 ppm colloidal silver per day. The larger "industrial strength" generators are equipped with their own container, as well as a mechanism for stirring the batch of CS as it's brewing. For larger volumes, stirring is a good idea because it ensures smaller silver particles.

A good CS generator will produce silver particles of about 12 ppm. Although 5 ppm to 10 ppm (a popular concentration range) brings good results, experience suggests that the minimum concentration required for serious and chronic diseases is 12 ppm. Except for conditions such as cancer and Lyme disease, higher concentrations of 15 ppm or 20 ppm don't seem to be more effective than concentrations of 12 ppm.

Storing Colloidal Silver

It's useful to know how to store colloidal silver if you make it in large batches that you will not drink immediately.

- ◆ Some researchers advise storing CS in plastic instead of glass, because the silver may "plate out" onto glass—that is, break down into larger particles—thus lowering the concentration of silver in the liquid. (There are really no completely safe plastics, but the best one is PP. See Insert, page 261, "The Dilemma of Plastics and Bottled Water.") Some people, however, do store the silver safely in clear or colored glass.
- ◆ Colloidal silver is thought to store best at room temperature. Although extremes in temperatures don't seem to hurt it, if it's in plastic, excessively hot temperatures *will* cause harmful compounds in the plastic bottles to leach out into the silver solution.

- ◆ Properly made colloidal silver doesn't seem to deteriorate when exposed to light, so exposure to the sun will probably not hurt it.
- ◆ You'll know if your stored CS has become contaminated if it turns dark gray or purple (clear and light yellow are fine), or if visible silver particles start to appear in the water, often settling at the bottom. If this happens, the CS should be discarded. Visible silver particles or a darker colored solution indicate that fewer silver colloids or ions are suspended in the liquid—thus making the fluid much less effective for killing pathogens.

Incidentally, if CS is boiled, the increased agitation of the particles due to heat may cause them to clump together. And if frozen, the particles may crowd into the unfrozen part until they combine. Under these conditions, the silver might precipitate out of the solution and its benefits would lessen. But we don't have enough information to know the definitive effects of heating and freezing. Some people do cook with CS, and its benefits appear to remain intact.

Therapeutic Applications and Amounts

Internal Use

To reduce tooth decay and gum infections, colloidal silver can be swished in the mouth for a few minutes, and then expelled. For systemic infections, it can be swallowed. Holding it in the mouth, near the soft palate or under the tongue, will speed absorption directly into the bloodstream. CS also makes a terrific sinus wash or a nasal spray, with salt added just before using it.

Colloidal silver can be put into drinking water to purify it, or consumed without diluting it. As it has almost no taste, it can be substituted for cooking water without any loss of its therapeutic properties. Simply use CS instead of the water that ordinarily would go into soup, stew, batter, etc. One naturopath colleague attributes the robust health of his (unvaccinated) children to their effortless daily intake of silver from the moment they were born.

Some people worry that if CS converts to silver compounds in the body, it could lose its therapeutic benefits. For instance, the ionic portion of CS might interact with hydrochloric acid in the stomach, creating silver chloride. Or the same chemical combining might occur when salt is added to food cooked with CS. I haven't found an explanation of what precisely occurs once EIS enters the bloodstream, or how the different types of particles in CS interact with all of the bodily fluids. What we do know, is that CS works.

Uses for Colloidal / Ionic / Electrolytically Isolated Silver

Silver inhibits the growth of bacteria, viruses, and fungi, so it will keep items fresh and sanitized, and prevent spoilage and germ growth.

Food and Drink:

- ◆ Add to water when traveling or camping.
- ◆ Add to foods when canning, preserving, or bottling.
- ◆ Rinse fruit and vegetables before storing or using.
- ◆ Spray on top of opened jam, jelly, and condiment containers and inside lids before replacing.
- ◆ Put into cooking water or use entirely instead of water (as when making soup).

Household, including Kitchen:

- ◆ Spray on cutting boards, kitchen sponges, and pans that the dogs licked.
- ◆ Spray refrigerator, freezer, and food storage bin interiors.
- ◆ Add to swamp cooler water and humidifiers.
- ◆ Add to water-based paints, wallpaper paste, cleaning supplies, and mopping solutions.
- ◆ Treat shower stall, toilet seat, bathtub, tile floors, sinks, urinals, and shower mats.
- ◆ Pour into Jacuzzis, hot tubs, and swimming pools.
- ◆ Spray onto air conditioner filters after cleaning, as well as into air ducts and vents.
- ◆ Add to laundry final rinse water.
- ◆ Treat pools and fountains.
- ◆ Put into dishwashers.
- ◆ Wipe telephones, pipe stems, headphones, hearing aids, eyeglass frames, hairbrushes, combs, and doorknobs.

Personal Care:

- ◆ Spray on the skin for any type of wound: abrasions, acne, burns, cuts, rashes, and sunburn.
- ◆ Sterilize toothbrushes, surgical instruments, and shaver.
- ◆ Use as mouthwash, add to shampoo, and use as scalp rinse.
- ◆ Spray in shoes, between toes, and between legs.
- ◆ Soak dentures, and douche and enema attachments.
- ◆ Add to bathwater.
- ◆ Add to douches and colon irrigation water.
- ◆ Add to gargle and dental hygiene instrument solutions.
- ◆ Add to nasal spray.
- ◆ After bathing, spray on body.
- ◆ Spray or wash pillowcases, sheets, towels, and bedclothes of people who are ill.
- ◆ Add to bentonite clay to make a poultice for abscesses, boils, rashes, and wounds.

Pets and Plants:

- ◆ Pour into pets' water, or give to dogs and cats instead of water.
- ◆ Put in birdbath.
- ◆ Use as a quick, temporary dip for diseased fish (do *not* put it into their permanent aquarium water).
- ◆ Spray pet bedding and let dry.
- ◆ Add to shampoo for humans and animals.
- ◆ Spray plant foliage.
- ◆ Put into vases of cut flowers.

Electrical Appliances and Medical Supplies (silver-impregnated metal, plastic, and cloth):

- ◆ Linings of washing machines, laundry dryers, dishwashers, refrigerators, and toilet seats.
- ◆ Dental tools and appliances, catheters, and bandages.

—adapted from Robert C. Beck, "A Few Unique, Plus Traditional, Uses For Silver Colloid," 1998

Does heating CS cause it to precipitate out of solution? Perhaps a bit, but there's still enough small-particle silver present to help with healing. The heated, low-concentration silver solution may add back some of the trace amounts of silver that would have been in the food had it been grown on completely fertile soil.

Incidentally, sometimes when I take large amounts of CS to fight an infection, I add alkaline minerals to it just before drinking it—this way, the silver won't precipitate out of solution. Distilled water tends to be acidic, and makes the silver solution acidic. For many people, drinking acidic water is not beneficial. Willard's Water and other alkalizing preparations appear to alkalize the fluid without destabilizing the silver. (See the **Water** section at the beginning of this chapter for more information on distillation, pH, minerals, and Willard's Water.)

Inhalation Therapy

Colloidal silver has been successfully used in treating respiratory ailments when inhaled through a medical nebulizer. A nebulizer is compressor that delivers the CS in ultra-fine droplets of mist. It's either held in the hand or delivers the silver droplets through a tube that's attached to a face mask or breathing apparatus that the user wears. The nebulizer should produce droplets of 2 to 5 microns in size. The effectiveness of the silver is often improved with the addition of very small amounts of essential oils such as lemon, oregano, tea tree, eucalyptus and lavender, which have antimicrobial properties. Sometimes, people add a pinch of MSM (methylsulphonylmethane).

External Use

Colloidal silver is simple to use. To clean and sterilize wounds, simply saturate a bandage or clean cloth and apply it to the skin, making sure to keep it wet. Healing will be rapid, with no pain or scarring.

For virulent or life-threatening diseases such as malaria or HIV, the *concentration* (strength) of CS should not be less than 12 ppm. However, more than 12 ppm is not necessary. Remember, a homemade solution will not yield much more than 25 ppm or more. If you buy any silver product over 25 ppm, it's almost certainly a silver *compound*, and will not give you the benefits of CS.

It's difficult to "overdose" on colloidal silver. The amount you take should be determined by observed effect and the level of discomfort caused by the Herx symptoms. Two cups per day, divided into several servings throughout the day, is a reasonable amount. Those with cancer, Lyme, HIV, Ebola, or similar virulent infections will benefit by taking more, at least one gallon daily (again, divided into smaller amounts throughout the day).

Every Home Should Have It

To summarize, electrolytically isolated silver (EIS), or what's commonly called "colloidal" silver:

- ◆ Causes single-celled pathogens to die, almost instantly, by disabling the enzyme they need for respiration.
- ◆ Is effective for serious illness such as HIV, Lyme, cancer, and malaria at concentrations of 12 ppm.
- ◆ Affects single-celled microorganisms in a fluid medium (bloodstream, water, etc.), but not in solids.
- ◆ Appears to increase immune function in mammals, independent of its pathogen-disabling properties.
- ◆ Is an essential nutrient, as it promotes proper immune function, healthy cells, and tissue regeneration.
- ◆ Does not create permanent microbial resistance. (Some research indicates that soil-based microorganisms may develop a temporary resistance to concentrated silver, but this resistance leaves in one generation—which, in the case of soil-based organisms, is one to two weeks.)
- ◆ Can be ingested by itself, added to food and beverages, inhaled, bathed in, and applied topically to the skin.
- ◆ Is painless when ingested or applied.
- ◆ Tastes almost like pure water, so is very easy to ingest, even for small children, picky eaters, and animals.
- ◆ Is easy to make, requiring a simple device.
- ◆ Is completely safe and never poisonous in any amount.
- ◆ Is still effective at 25 ppm, although any higher ppm is probably a silver *compound*, which is not desirable.
- ◆ If improperly made, can cause a bluish gray discoloration of the skin, *which can be reversed*.

Today, more than ever, we need a reliable, safe substance that can kill many virulent pathogens—whether it's the simple flu, a stubborn *Candida albicans* infection, or more advanced diseases such as Lyme, patented strains of Ebola, Morgellons, or some other horror that hasn't yet been seen on all continents. You'll have an advantage if you own equipment for making colloidal silver and use it regularly. For a quick guide to how handy silver can be, see Insert on page 411, "Uses for Colloidal/Ionic/Electrolytically Isolated Silver."

One more thing. I believe in moderation. Unlike some people, I don't drink EIS every day, but save it for when I truly need it. However, when I do need it (as during an infection), I don't hesitate to drink a pint or more.

EXERCISE

Summary of Benefits

In the past, before high-rises, cars and elevators, our ancestors walked and trotted and ran. They chased the food they hunted and climbed to reach what they picked. Humans didn't sit for most of the day, hunched and slumped over their desks. They didn't ruin their eyes gazing at computers and playing video games. Nor did they need to walk on treadmills or climb the moving stairs at the local gym or health club in order to meet their quota of exercise. These are strange times indeed in which to be alive.

Although not everyone lives in a city today, often even country dwellers don't get enough exercise. Either diabetes or a pre-diabetic condition now affects over one-quarter of the population in the United States. Over two-thirds of adults are overweight or obese, and between one-third and one-half of the children are overweight or obese. Can you think of a better time to begin an exercise program?

Exercise promotes the following:

- ◆ Muscular strength (a muscle's capacity to push or pull against an opposing force).
- ◆ Muscular endurance (the ability of large muscle groups to exert force for extended periods of time).
- ◆ Cardiovascular endurance (the ability of the heart to pump blood through the circulatory system).
- ◆ Flexibility (range of movement around a joint).
- ◆ Improved body tissue composition (a lower ratio of fat compared to the amount of lean muscle and bone).
- ◆ Improved immune cell function (increased protection from infectious diseases).
- ◆ Increased breathing rate (which supports a greater oxygen-carrying capability in the lungs).
- ◆ Improved recovery times from injury (due to increased blood and lymph flow, which helps rebuild tissue).
- ◆ Increased sensitivity of the cells to glucose, insulin, and leptin (which help balance blood sugar levels and normalize weight, independent of calorie usage).
- ◆ Increased flow of blood, oxygen, and neurotransmitters in the brain (which encourages more stable moods and effective mental processing).
- ◆ Increased repair rate of *telomeres*—tiny caps on the ends of DNA strands—which help improve cellular health and have anti-aging effects.

Aerobic and Anaerobic Exercise

Exercise is generally classified into two types (although they do overlap to an extent): *aerobic*, which utilizes large amounts of oxygen, and *anaerobic*, which does not.

Aerobic exercise involves large-muscle groups. These are involved in steady physical activity such as running, jogging, brisk walking, swimming, bicycling, skating, dancing, skiing and other sports, which occur over a long enough period of time that more air than usual is taken into the lungs. During aerobic exercise, the heart functions more efficiently than when the person is resting, in order to provide the body with increased amounts of oxygen. The body is also more efficient at extracting and using the oxygen that it needs. Aerobic exercise increases levels of endorphins, cortisol and growth hormone, substances that increase pain tolerance and improve muscle tone. Aerobic exercise also induces sweating, which excretes toxins through the skin. (Sweating can be augmented with a visit to a hot tub, steam room or sauna; see the section on **Sauna Therapy** later in this chapter.)

Anaerobic exercise doesn't require as high an oxygen expenditure as aerobic. Stretching is generally anaerobic. Weight lifting used to be considered anaerobic, but it can *become* aerobic under these conditions: if it's done with lighter weights and many steady repetitions, and if it's done after high-intensity interval training or HIIT (discussed shortly).

Typically, moderate exercise is defined as causing a slight increase in breathing and heart rate. Brisk walking and bicycling, and tasks such as gardening and vacuuming, are usually included in this category. Vigorous exercise is defined as causing a substantial increase in breathing and heart rate. Aerobics (jumping) classes, running, and heavy manual labor are usually included in this category.

Exercise and the Lymphatic System

One important benefit of exercise is the easier movement of the toxin-laden *lymphocytes* (immune cells) of the *lymphatic system*. Most people are familiar with the cardiovascular or circulatory system, but less so with its lymph counterpart. The lymphatic system is a vast network of channels that run somewhat parallel to the blood vessels. They reach all the areas of the body, including the brain. I want to spend some time explaining how the lymph system works because these channels provide critical waste removal and immune support—and if they aren't maintained properly, the entire body can malfunction.

The nourishment and waste collection processes of the body are interrelated. Whereas oxygen exchange occurs in the red blood cells of the cardiovascular system, waste

Swim, But Not In Chlorine

Swimming is often (and correctly) touted as one of the best forms of exercise. Aerobic by definition, swimming utilizes the large muscle groups, which are responsible for the most rigorous movements (and a high calorie expenditure). But, unlike any other aerobic activity, swimming also works the muscles without stressing the skeletal system.

Water is twelve times as dense as air, providing 12% to 14% more resistance than when comparable exercise is done on land. By nature, water doesn't permit sudden movements, wrenching or jarring; so for the most part there are no impact injuries. Subjectively, the body submerged in water feels lighter. Immersed to the waist, people support half of their weight. Immersed to the chest, people support only about 25% to 35% of their weight. And immersed to the neck, people support only 10% of the body's weight.

Water disperses heat more efficiently than air, so compared to other forms of exercise there's less chance of overheating. However, the swimming water should be the correct temperature. For most purposes, the temperature should be between 85°F and 89°F (about 29.5° to 31.7°C). Those doing competitive swimming and high intensity water exercise can tolerate 82°F (about 27.8°C). The elderly, infirm, and children require warmer water.

Because swimming does not stress the joints, and both stretches and strengthens muscles, it's good for people who have arthritis. Movement while being immersed in warm water (exercise hydrotherapy) has been used for centuries for people with neurological and muscular disorders. Hydrotherapy often involves alternating immersion in warm and cold water. This moves the lymph.

In the US, most public swimming pools (as well as hot tubs) are sterilized with chlorine. In small amounts, chlorine causes skin rashes, boils, and allergies. In larger amounts, it's carcinogenic. Chlorine seeps directly into the bloodstream through the skin's pores, so swimming in a chlorinated pool is the equivalent of drinking gallons of chlorinated water. Therefore, even though swimming is wonderful exercise, it's a health hazard in contaminated water—whether the contamination is from pathogens or chemicals including chlorine.

If you can't get to a clean lake, river, or ocean, try to find a pool that uses ozone or salt water. There are also purification systems that utilize an electrolysis process to produce copper, zinc and silver ions, which kill bacteria and algae without the use of any chemicals. These systems are so effective and safe, it's amazing that they aren't more popular.

collection occurs in the lymph capillaries. Both systems deal with nutrient exchange because the cardiovascular system is so closely partnered with the lymph network.

During circulation, large arteries leave the heart on the left side, picking up (from both lungs) fresh oxygen carried by red blood cells. It is the oxygen that gives the arterial blood its bright red color. All other nutrients, along with the red blood cells, are carried by a clear, thick, viscous liquid called *blood plasma* or simply *plasma*. As the arteries become smaller, they branch out into smaller arterioles, and eventually tiny capillaries. Capillaries reach every cell in all the tissues to deliver oxygen to the body. When the capillaries arrive at the tissue sites, the red blood cells in the capillaries release the oxygen they were holding and pick up the carbon dioxide that's a normal byproduct of cell metabolism. At this point in the oxygen-carbon dioxide transfer, the arterial capillaries become venous capillaries. However, it's all the *same continuous network* of blood vessels.

Their job complete, the carbon dioxide-filled capillaries—which become somewhat larger venules, and then the large veins—return to the heart. It is carbon dioxide that gives the venous blood its dark red color. This concludes the discussion of how the blood travels, but there's one more pertinent detail. Capillaries are so tiny, they can hold red blood cells only if the cells pass through single file. Once blood reaches a capillary, there is so little room and such high pressure in the capillary channel, that some of the thin plasma fluid is squeezed from the capillary. This nutrient-rich, watery fluid bathes each cell, supplying the needed nutrients. The fluid squeezed from the blood plasma that surrounds each cell is now called *interstitial fluid*. After the cells extract their nutrition from the interstitial fluid, they dump, into this same fluid, the toxic waste products of their metabolism. This is the point at which the lymphatic system performs its valuable service of managing the waste materials from the body's tissues.

The lymph capillaries, designed to pick up vast quantities of debris, are highly permeable. The waste-filled interstitial fluid gravitates to the nearest tiny lymph capillary, where it is now called *lymphatic fluid*. (It should be noted that the lymph vessels are only near the venous capillaries and veins, not the arterial capillaries and arteries.) The lymphatic fluid then travels through the lymph capillaries to larger and larger lymph vessels, eventually arriving at cleaning stations called *lymph nodes*. These major lymph nodes are quite large. They are clustered in the back of the throat (where they are called *tonsils*), at the neck (where they are called *lymph glands* or simply *glands*), at the armpit, and in the groin area between the legs. In these lymph

nodes, the lymphatic fluid is cleaned and the toxins are neutralized by the white immune lymphocytes and other immune cells. Afterwards, the lymph fluid seeps back into the bloodstream. Any parasites, bacteria, fungi, viruses, and miscellaneous impurities remain in the blood, where the white immune blood cells called *leukocytes* gobble them up.

Unlike the blood, which is pushed through the body by the heart, the lymphatic fluid has no comparable pump. *A Massage Therapist's Guide to Pathology* states:

The immune system is unique. . . . It is a nebulous, incredibly complex collection of cells and chemicals stationed all over the body whose coordinated function is . . . fundamental to keep[ing] the whole organism alive.

If everything is working well, fluid levels in the tissues should be constant, but not stagnant. The amount of fluid being squeezed *out* of circulatory capillaries should be almost equal to the amount being drawn *into* lymphatic capillaries. .

. . . But a backup anywhere in the system could result in major changes in fluid balance. If lymph vessels or nodes are blocked, for instance, the body won't stop producing interstitial fluid. This fluid will accumulate between tissue cells. It will cause swelling and quickly become a hindrance to diffusion and other chemical reactions. . . . This is the problem with many of the diseases of the lymph system. . . .²¹⁷

Lymph fluid is extremely dense. It moves when it's subjected to mechanical pressure, to alternating heat and cold (which expands and contracts the tissues), and to deep breathing (which moves lymph fluid in the diaphragm area). The mechanical pressure moving the lymph can be either externally applied, as with massage, or generated from within, as when exercising. "When muscle fibers squeeze down around lymphatic vessels," write the authors of *A Massage Therapist's Guide to Pathology*, "they push [lymphatic] fluid through just like a hand squeezes around a tube of toothpaste."²¹⁸

When we don't move, we contribute to our own autointoxication and eventual illness. Once the lymph vessels become too clogged, a strong odor from the body (especially the feet and armpits) emerges—often accompanied by low energy, swollen glands, foggy thinking, and even depression. There are many ways to induce movement in the lymph vessels; continue reading.

Anti-Inflammatory Effects of Exercise

Exercise fulfills another, vital function. Naturopath Jade Teta writes:

Properly performed exercise releases signaling molecules that stimulate a unique healing response that couples both inflammatory and anti-inflammatory mechanisms to repair, regenerate, and grow stronger tissue. . . . High-intensity, short-duration movement that is tailored to the individual, uses short rest periods, and engages the whole body may be the chief means of attaining anti-inflammatory effects from exercise.

As muscle [voluntarily] contracts, the genes controlling IL-6 [Interleukin-6, a type of *myokine* or protein secreted by muscles] are turned on. . . . When released from muscle [IL-6 is produced elsewhere in the body as well as in the muscles], and in high concentrations without [certain other biochemicals], IL-6 is anti-inflammatory.²¹⁹

Whenever I feel
the need to exercise,
I lie down
until it goes away.

—Robert Maynard Hutchins,
educational philosopher,
dean of Yale Law School
and president of the
University of Chicago
(1899–1977)

Fibromyalgia is a condition characterized by chronic muscular inflammation and pain. The pain and fatigue from fibromyalgia may discourage people from exercising, but those suffering from this condition often are the ones who need it the most. They will greatly benefit from *moderate* exercise. The fact that exercise helps curb inflammation, and also helps protect the body from diabetes, cardiovascular diseases, dementia, depression and cancer, points to the role of inflammation in these conditions. I will soon discuss, in more detail, the high-intensity exercise that Jade Teta recommends.

Exercise, Telomeres, and Anti-Aging

People who exercise on a regular basis report feeling not only better, but younger. This isn't subjective—they are experiencing what's actually occurring in the body. More cells are being restored, and more quickly. This restoration is measurable in the rapid transformation in the *telomeres*, proteins at the ends of chromosomes that are analogous to the plastic tips at the ends of shoelaces. The function of the presumably inert telomeres is to protect chromosomes from binding to each other (DNA is very sticky). Normally, every time a cell divides to create another cell, a bit of telomere tip is removed and the total amount of telomere material lessens. After the protective telomere tip wears away—leaving a DNA

Exercise helps people with inflammatory illnesses, heart disease, and even cancer. A team of researchers studied about 200 women with breast cancer who enrolled in a supervised 12-week exercise program in Scotland. Exercise included fast walking. Greater shoulder mobility and an improved psychological profile, reported by the women, extended for six months after the end of the exercise regimen.

Researchers who reviewed 48 earlier studies found that postmenopausal women who exercised reduced their risk of breast cancer by up to 80%. Exercise had a 20% protective effect for pre-menopausal women.

—reported in *Epidemiology* (2007)
and *British Medical Journal* (2007)

“frayed shoelace”—the cell can no longer replenish itself. In people who exercise regularly, the white blood cell telomeres are longer than in those who don’t exercise. Conversely, the telomere tips of people who feel stressed are almost 50% shorter than in their less stressed counterparts. The biological age of stressed subjects averages nine to seventeen years older than in their calmer counterparts of the same chronological age. Research studies—with intriguing titles such as “Exercise Controls Gene Expression”²²⁰ and “The association between physical activity in leisure time and leukocyte telomere length”²²¹—show positive genetic changes in people who exercise regularly compared to those who don’t.

The longer the telomeres, the more time it will take for them to deteriorate. This means that the body’s cells live longer. Thus, the erosion of telomere material indicates aging. Exercise prolongs the survival of the telomeres—hence the cells, and hence the lifespan of the person.

Children who grow up in extremely stressful environments—such as severe, repeated levels of physical, sexual, and/or emotional abuse—develop changes in their DNA that are associated with (among other conditions) diabetes, heart disease, and mental illness. This in itself is not surprising. However, the scientists who understand that telomeres shorten due to stress, and who (correctly) link this shortening to illness, mistakenly insist that the telomere damage is permanent. They seem unable to understand that if a negative environment can cause undesirable biological and physiological changes, then the introduction of a positive environment—which includes love, good nutrition and exercise—can likewise halt, and perhaps even reverse those negative changes. People who exercise don’t need scientists to tell them what they already know: that exercise helps them feel better. However, it’s important to do the right kind of exercise, and everyone is different.

When and How Much

Ideas about when we should exercise, and how much, have varied throughout history. The ancient Greeks had a high regard for health and fitness, evidenced by their Olympic games and efficient Spartan army. The Chinese encouraged exercise (which included an elaborate system of martial arts) to avoid health problems like diabetes and heart disease. Pregnant tribal women in Africa have often conducted their usual high levels of activity until just before giving birth, resuming their daily tasks afterward with hardly any interruptions. A century ago in Europe and the United States, a pregnant woman was considered frail and weak, and was advised not to exercise. Today, her normal, healthy counterpart is counseled to keep moving!

Similar changes in ideas have occurred with the types of exercise deemed the most valuable. For instance, exercise physiologists agree that any movement of large-muscle groups increases heart and breathing rates, improves oxygen utilization, and helps the cells excrete waste material. Everyone agrees that brisk activity is beneficial for reducing the incidence of cardiovascular diseases.

For how long? Here’s where it gets interesting. There are two schools of thought: the prevailing popular one, and a more recent, minority approach that almost seems counterintuitive to what we think we “know.” I’ll discuss both, and you can decide which one feels right for you.

Popular Exercise Styles

The Drill Sergeant Method

A widespread, popular belief about exercise is that it must be frenzied in order to be beneficial. Many gyms and athletic trainers promote at least 30 minutes to one hour of demanding activity, five days a week, as the barest minimum of activity required to stay in shape.

No matter what health club I’ve visited across the United States, the members always seem determined to push themselves beyond what their bodies can conceivably tolerate. This “no pain, no gain” mentality is adopted by many bodybuilders, weight lifters, and high-impact aerobic fans. Unfortunately, the majority of trainers act like military drill sergeants and seem to know nothing about how the body works. People huff and puff, strain and struggle contorting their faces. By emphasizing quantity of weight and the number of repetitions, they become tense all over (an inefficient use of energy), never properly building the muscles they say they’re trying to strengthen.

Many people don’t know that part of the massive bulk in a very beefy weight lifter is scar tissue. Normal exercise induces the body to create more muscle fibers. But too much strain, pressure and weight on a muscle causes the

fibers to tear; and when they heal, irregular scar tissue forms. Unlike normal tissue, scar tissue has no blood supply and almost no strength, flexibility, or elasticity (muscle tone). The main purpose of scar tissue is to cover and protect the injured areas. If the scar tissue is not broken up and reabsorbed into the body (such as through massage or ultrasound), it prevents the surrounding healthy tissue from receiving an adequate supply of blood and oxygen. Eventually, movement is inhibited throughout the body and one's posture suffers. The presence of scar tissue can disrupt the healing of any nearby tissue. And acupuncturists are well aware that scar tissue prevents energy from flowing in the meridians.

I believe that movement and strength training should be pleasurable challenging rather than negatively stressful. If you're straining to the point where you really hurt, and the pain does not lessen within a few days, this is a signal that you're hurting yourself.

HIIT: Gentler But More Effective

Exercise physiologists suggest that even gentle walking for 20 or 30 minutes per day can do wonders for both the cardiovascular and the lymphatic systems—providing, of course, that the right foods are eaten. (See Sidebar, “Eating Correctly for Exercise.”)

Even briefer periods of brisk walking can significantly help improve health, as shown by a recent study conducted by researchers at the University of Ulster in Northern Ireland. Twenty-one inactive men and women in their mid-40s briskly walked for either 10 minutes three times a day, or for 30 minutes once a day, five days a week for six weeks. After a two-week rest period, each group switched to the other group's walking routine for another six weeks. Both groups boosted their levels of beneficial cholesterol, and improved their aerobic ability and psychological well-being.

This new understanding that the body doesn't have to be tortured to benefit from milder physical activity has led to the development of *high-intensity interval training* (HIIT, sometimes given the acronym HIT), sometimes called *high-intensity intermittent exercise* (HIIE) or *sprint interval training* (SIT). Various versions have been developed, based on principles reported by German coach and university professor Woldemar Gerschler and Swedish physiologist Per-Olof Astrand—but the main idea is this: The body burns more calories, achieves better shape and tone, loses more fat, and undergoes less debilitating stress (and more of the good kind of stress that's challenging), when there are relatively short bursts of intense exercise followed by periods of rest. This is instead of conventional aerobic workouts that last for much longer periods.

Conventional aerobic workouts, which push the cardiovascular system—typically achieved by running, jogging, bicycling or using an elliptical machine—have actually been found to deplete the system of necessary nutrients, stifle the production of beneficial hormones, and stress the heart too much. In contrast, HIIT helps the body conserve its strength. It engages more of the muscle tissues that you want to engage—the fast and very fast muscle fibers, not just the slow muscle fibers (which are the ones people use during long-distance running). This results in more blood flow, allowing more oxygen to circulate throughout the body. It activates more mitochondria, the fuel burning units of all the cells, yielding more energy. And it produces the valuable human growth hormone (HGH), which vastly shortens recovery time, helps increase bone density, balances mood, strengthens the heart, favorably regulates the muscle-to-fat ratio in the body, and assists with sugar and fat metabolism. (Some athletes take synthetic HGH, but why risk unwanted effects from an artificial, not quite biologically compatible preparation—when you can get your own pituitary gland to produce it naturally?) Finally, unlike when doing conventional aerobics, during HIIT, the skeletal muscles produce *myokines*. This word is a combination of *myo*, the Latin root for “muscles,” and part of the word *cytokines*, which are inflammatory compounds. However, myokines—which are produced by the muscles—respond in opposition to the inflammatory cytokines. Not only do myokines eliminate the pain caused by inflammation, but they also increase sensitivity to insulin, thereby increasing the utilization of glucose inside the muscles.

Thus, the mentality of “more is better” and “pushing brings more results,” is proving to be completely untrue. As difficult as it might be to believe, compared to conventional aerobic exercise, HIIT requires only minutes a week. People are getting the results they want by doing

Eating Correctly for Exercise

When your body is accessing fat for fuel, any motion (except short bursts of speed, such as sprinting) will increase the fat burning process. . . . [You can analogize] fat [as] being a log, and carbohydrate is the kindling. Trickle in small amounts of carbohydrate (kindling to start the fat burning process), and the fat (log) will burn long and steady. Dump in too much carbohydrate and you get a flash fire that flares quickly and then burns out.

—Jay Robb
The Fat Burning Diet, 1996

Mindful Exercise

Simply by telling 44 hotel maids that what they did each day involved some serious exercise, the Harvard psychologist Ellen Langer and Alia J. Crum, a student, were apparently able to lower the women's blood pressure, shave pounds off their bodies and improve their body fat and "waist to hip" ratios. Self-awareness, it seems, was the women's elliptical trainer.

At the start of the study, Langer and Crum quizzed 84 maids at seven carefully matched hotels about how much exercise they got. Fully a third of the women said they got no exercise at all, while two-thirds said they did not work out regularly. Langer and Crum took several measures of the women's basic fitness levels, which indicated that they, indeed, had the poor health of basically sedentary people. Then just over half the women were told an unfamiliar truth: cleaning 15 rooms daily—pushing recalcitrant vacuum cleaners, scrubbing tubs, pulling sheets—constitutes more than enough activity to meet the surgeon general's recommendation of a half-hour of physical activity daily. The researchers even provided specifics: 15 minutes of scrubbing burns 60 calories, 15 minutes of vacuuming burns 50. The basic message and the details were then posted in the maids' lounges in the hotels where the 44 women worked, to serve as reminders, while a control group was left in the dark.

A month later, Langer and Crum checked back with the women to find . . . remarkable results. The average study-group maid had lost 2 pounds, while her systolic blood pressure had dropped by 10 points; by all measures the 44 women "were significantly healthier." Yet there were no reported changes in behavior, only in mindset, with the vast majority of the women now considering themselves regular exercisers. Langer sees the study as a lesson in the importance of mindfulness. . . .

—Christopher Shea, "Mindful Exercise"
New York Times Magazine, December 9, 2007

HIIT for 12 or 15 minutes per week compared to several hours a week. How, exactly, is this being accomplished?

Dr. Joseph Mercola, whose holistic health website ranks first in the world as the most viewed, suggests the following schedule. Exercise *at maximum speed, resistance and difficulty* for 30 seconds, followed by a 90-second recovery time. Repeat for a total of up to eight cycles or repetitions. You are working your body very, very hard—pushing it to its maximum limits—so you must give yourself the full 90-second recovery period between the 30-second bursts of activity. Initially, beginners may be able to complete only a few cycles, but that's okay.

Here's some more good news: HIIT does not need to be done every day, but every other day—about three times a week! The high-intensity exercise can be done with barbells, on a treadmill, stairmaster (a stationary staircase that keeps moving, like an escalator), or other piece of equipment that demands maximum output from the large muscle groups of the body. I began my own HIIT regimen using a stairmaster. At first I could do only three sets, but in an amazingly brief period of time, I worked my way up to six (and sometimes eight) sets, depending on how much energy I had on a given day. My rewards were almost immediate: a decrease of body pain, increase in energy, and improved mood. After that, I explained the protocol to an ex-military officer. He had been accustomed to doing lots of physical exercise, including riding his bicycle for ten miles a day. Yet after only four cycles of HIIT, he was winded! He simply could not believe that he would find

any form of exercise strenuous. His results, along with my own, convinced me that this new form of exercise—HIIT—was indeed beneficial and unique.

Results from HIIT, which are reported to be typical of everyone who faithfully practices it, include:

- ◆ Improved muscle tone
- ◆ Firmer skin
- ◆ Higher and steady energy levels
- ◆ Elevated and more stable moods

To complement HIIT, Mercola advises strength training (using barbells, stretch bands and/or some other type of weight), stretching (holding each stretch for only two seconds, to allow the body to repair itself), and exercises to strengthen the core of the body. "Core" muscles are located mostly in the back, abdomen and pelvis. Good core exercises include balancing, and movements that work the abdominal muscles only.

The theory behind HIIT makes sense. Historically, humans evolved doing high-intensity exercises. They would move intensely for brief periods of time, and then rest (as when hunting).

The moral of HIIT and similar programs is pretty clear: *Exercising for too long can backfire!* Intense aerobic exercise without sufficient rest periods can lead to heart damage, high levels of oxidative stress (the production of free radicals in the body), and inflammation. If, after exercising, you suffer from exhaustion instead of feeling

energized, or if you experience unstable or negative moods, unusual illness, or sleep disruption (not to mention feeling abnormally sore)—*you’re doing it wrong*.

In case you’re not convinced to at least try HIIT, consider the following data. For a long time, scientists said that an excess of lactic acid in the blood was the biochemical counterpart to over-exercising, or not adequately resting between normal periods of activity. This was thought to be the cause of dizziness, fainting, and what is sometimes called “exercise-induced asthma.” Now, at least some physiologists believe that exercise fatigue is the result of impaired calcium flow in the muscles. *The New York Times* reports:

Ordinarily, ebbs and flows of calcium in cells control muscle contractions. But when muscles grow tired, . . . tiny channels in them start leaking calcium, and that weakens contractions. At the same time, the leaked calcium stimulates an enzyme that eats into muscle fibers, contributing to the muscle exhaustion.²²²

Clearly, one should stop exercising before reaching this state of extreme depletion. Supplementation of extra magnesium, along with Vitamin K2 and boron, will help with calcium balance and absorption.

Music During Exercise

It’s well known that listening to music during exercise improves results. Music helps people work out more vigorously, and for longer periods (partly because the music distracts them from feeling fatigue). In addition, tempo (a song’s speed) plays a role. Dr. Costas Karageorghis, associate professor of sport psychology at Brunel University in England, has determined that for rigorous exercise, the best tempo is from 120–140 beats per minute (BPM). This is the pace of many rock songs and commercial dance pieces. This pace is also close

to the average person’s heart rate during an elliptical training workout. For a stroll of about 3 miles an hour, 115–118 BPM is best; for a power walk of about 4.5 miles per hour, 137–139 BPM is best; and for a run, 147–160 BPM is best. Interestingly, even just *thinking* about music can help with an exercise regimen.

Best Times to Exercise

The timing of a rigorous workout can be as important as the intensity. Evenings, and just before bedtime, are not good times to charge the system. One holistic practitioner writes:

My experience with training athletes, as well as with my own training, has been that people naturally train better when their cortisol levels are high. Since cortisol levels rise with the sun, reaching peak blood levels around 9 a.m. to 11 a.m. and then progressively set with the sun, most of you will find that you get your best performances in this time frame.²²³

Cortisol, you will recall, is a stimulating hormone secreted by the adrenal glands. It’s unwise to raise cortisol levels—and hence metabolism and body temperature—when the system should be preparing for sleep. Sleep requires lower, not higher, levels of cortisol.

Another aspect of timing, which one might not consider, is the need to move if you tend to be stationary. These days, many people have jobs requiring them to sit for hours at a time—often typing at computers, their necks held stiffly. Sitting for prolonged periods without movement causes severe back pain. With reduced blood and oxygen flow caused by improperly held muscles, disc degeneration can occur. If you sit a lot, be conscious to maintain proper posture. And get up and move at least every 45 minutes or hour. It will do wonders for your hormone levels, muscles, energy, and DNA.

Exercise Benefits and Bones

Grandma used to say, “Exercise builds strong bones. Get whatever-it-is out of your system. Go out and play. You’ll feel better.” Finally, science has proven the validity of this piece of folk wisdom, which we have always felt . . . in our bones.

Exercise does build stronger bones by increasing bone density. But as it turns out, our skeleton—which consists of many types of cells fed by blood vessels—does more than simply hold us up. This living, ever-changing tissue we call “bone” produces hormones! In the past two decades, research by geneticist and endocrinologist Gerard Karsenty has shown that *osteocalcin*, a protein-based hormone found in high concentrations in the skeleton, is sent by bone to regulate crucial processes throughout the body—including male fertility (it increases testosterone production) and improved blood sugar regulation (it increases insulin sensitivity and amounts). Osteocalcin has also been found to favorably influence sleep, prenatal brain development, cognitive functions (including learning and memory), and emotional responses (such as depression and anxiety). These findings explain why brain function and mood improve with weight training and other load-bearing exercise, including even walking.

If You're Just Starting

You don't have to incorporate the "no pain, no gain" mentality into your workouts, as stated in the section on HIIT. There's a difference between the discomfort that results from giving your muscles a nudge (the good kind of challenge), and the kind of pushing that causes the muscles to become injured (no longer a challenge, but stressful). If you have a medical condition that makes strenuous activity difficult, or if you're just starting to exercise, *begin slowly*. You don't have to run a marathon or thrash your limbs to benefit aerobically. A brisk walk is fine. Dancing is even better: it stimulates learning, balance, and memory. Yoga, gentle movements in water, and (for some) stationary bicycling, are good low-impact exercise. A rebounder (miniature trampoline) with a support bar moves lymph without stressing the body. Unlike a trampoline, a rebounder does not require one to lift the feet off the surface in order to bounce. Merely bending the knees slightly, and then straightening them, facilitates movement. People unable to stand and bounce themselves can benefit by sitting on the rebounder while someone else bounces. Or, they can sit on the rebounder while someone else presses up and down on their shoulders to promote movement. Rebounder exercise three or four times a day for even just a few minutes can be very helpful.

Whatever you do, be easy on your joints. When stretching, don't push your muscles farther than they can comfortably go. Lean into the stretch, and let your body's own weight (and gravity) do the work. Injury to a muscle, tendon or ligament may indicate microtears. If you injure a muscle or other tissues, using any of the Avazzia® instruments, the Magnetex®, or an electrode rife machine can help with repair. See Appendix C for more information on this equipment.

Unused muscles become stiff. Eventually, they atrophy. Sitting for long periods without getting up to move can cause severe back pain (and reinforce poor posture). If you sit for long periods, get up every 45 minutes and move.

Incidentally, researchers have discovered that polyester and other synthetic materials hold much more bacteria than natural fibers. You might be tempted to wear the latest workout fashion of tight polyester (which is made from coal and petroleum), but consider a cotton outfit, which allows your skin to breathe when you sweat.

After exercise is a good time for a massage or a chiropractic adjustment. See **Bodywork**, next.

BODYWORK

The Physiological and Emotional Components of Touch

The respected sociologist Ashley Montagu (1905–1999) was a perceptive soul who published many books about the biological influences on human relating. He wrote that having been raised in stiff, upper-class England, the British fear of physical intimacy frustrated and saddened him. As one might expect, the taboo against touching that's rampant in Western countries is a recurring theme in his books.

Montagu cited some interesting studies conducted in restaurants and other public places, where lovers, families and friends were watched to see how many times an hour they touched each other. Latinos were found to be the most tactile (and correspondingly, the most emotionally expressive). Scandinavians were deemed moderately tactile, and people who speak Anglo-Saxon-derived languages touched the least. In Spain, people touched over one hundred times an hour, in America about four, and in Britain, a pitiful zero.

Touch deprivation takes on special meaning when we consider the origin of the skin. In the developing embryo, some of the outer membranous covering folds back into the body to become the brain, spinal cord, and central nervous system. The rest of the outer covering becomes the hair, nails, teeth, and skin. In his wonderful book *Touching: The Human Significance of the Skin*, Montagu wrote that the nervous system is:

a buried part of the skin, or alternatively the skin may be regarded as an exposed portion of the nervous system. It would, therefore, improve our understanding . . . if we were to think and speak of the skin as the external nervous system, an organ . . . which from its earliest differentiation remains in intimate association with the internal or central nervous system.²²⁴

Thus, the exquisitely sensitive organ we call "skin" is essentially one giant covering of nerve tissue that happens to be on the outside of the body instead of the inside. This remarkable connection between the skin and the human nervous system reflects just how sensitive we really are to external stimuli, including touch. In fact, a loving touch promotes the body's production of the hormone *oxytocin*, which has also been called the "attachment" or "trust" hormone. Oxytocin beneficially affects relationships of

The Church says: *The body is a sin.*
Science says: *The body is a machine.*
Advertising says: *The body is a business.*
The Body says: *I am a fiesta.*

—Eduardo Hughes Galeano
Uruguayan writer, journalist and novelist
(1940–2015)

all kinds: parental love, friendship, sexual attachment. It reduces stress and pain, improves immune function, helps with sleep, and induces the desire to protect.

It's no accident that we use the word *touched* to indicate being affected on a deep emotional level. For human beings, as with all mammals, touching is inseparable from love (especially in infancy) because our first experience of communion in life is through bodily contact. Despite the highly sophisticated, symbolic language that we develop later, we never outgrow our need for touch. This is illustrated by a study done by psychologist Rene Spitz in the 1940's, on human babies isolated from their mothers. The mothers, too poor to care for their infants, had placed them permanently in a foundling home. The children were kept in what Spitz called "solitary confinement": cribs with sheets hung from the sides, so that the only thing the babies could see was the ceiling. Nurses seldom visited them more than a few times a day. And even when feeding time came, the babies were left alone with just the companionship of a bottle. Hygiene in the nurseries was impeccable. But without being held and loved—given the sense that they belonged—the babies suffered lowered immunity. Thirty-four out of 91 died. In some of the other foundling homes, the death rate climbed to 90%.

One of the most famous studies on touch is the animal-behavior experiment with monkeys conducted by psychological theorist Harry Harlow in the 1950s. Harlow separated infant monkeys from their mothers during the first critical months of their development, and put them in a room with two monkey "mothers" made of wire. One wire figure had a bottle attached to it for feeding. The other wire structure contained no bottle, but was covered with soft cloth to simulate the mother's fur. Much to the surprise of Harlow and his associates, the young monkeys stayed with the food-and-wire figure only long enough to obtain the nutrients they needed. They spent the rest of the time clinging to the cloth "mother." The cloth figure was the primary means of communication and comfort for those baby monkeys. That this experiment is instantly recognized as cruel demonstrates our instinctive understanding that pleasurable bodily contact is a basic need. Later experiments with primates showed that infants who were neglected or mistreated by their parents were impaired in their ability to relate to other primates, and as adults were unable to care properly for their own babies. The adult primates did not know how to mate, and were even overtly hostile to their newborns.

**There is more wisdom in
your body than in your
deepest philosophy.**

—Friedrich Nietzsche
German philosopher, poet,
cultural critic and composer
(1844–1900)

In this respect, the needs of human beings are similar to those of monkeys and other mammals. Feeling close to others gives us a sense of well-being, pleasure, and a greater ability to develop close emotional relationships with others later in life. Something is missing when our need for intimacy with others is thwarted. Our physical needs for food and shelter might be met—but, like Harlow's monkeys, if we are not held, caressed and played with, we grow up starved for love (assuming we don't die first from its absence).

In the US and other highly industrialized parts of the world, the emphasis of the supposed superiority of the mind and the "baseness" of the emotions relegates the body to little more than a mobile unit to transport the esteemed head. People are taught that their own bodies are not

the major, or even a valid, barometer of their experiences. Children are encouraged and compelled to mistrust their perceptions, emotions, and even their sensations. The educational system and media push children to become consumers of other people's "facts," fantasies and beliefs instead of experiencing their own truths. The ways in which people minimize and

numb themselves to their true feelings, and how to access those feelings, would require another book. However, what I can address here is how emotional repression affects the physical body, as this plays a direct role in illness.

One major way to avoid feeling is to *inhibit the breathing*. When the breath is held, the lips stiffen or turn inward, the jaw clenches, the throat tightens, and diaphragmatic motion lessens. Normally, during full respiration, rhythmical waves travel up and down the chest and lungs all the way down to the abdominal area and even the base of the spine. But when feeling is suppressed, respiration is confined to the chest area and abdominal movement is restricted. The abdominal muscle contraction limits peristalsis, the normal wave-like motion of the intestines. A tight abdomen causes the intestinal wall to lose its muscle tone. As a result, the digestive tract becomes sluggish, causing the putrefaction of food and inflammation of the intestines.

Shallow breathing also brings less oxygen to the cells. This depresses the immune response, thus encouraging harmful anaerobic microbes to thrive. The red blood cells also lose some of their electrical charge, which causes them to clump together, become flattened instead of round, and lose some of their ability to carry whatever oxygen is still remaining in the body.

Stress and Anxiety, Calmness and Happiness

Stress is related to our response to our environment. Enough energy to deal with input equals less stress, while not enough energy equals more stress.

The body's systems are so interrelated that the stress induced by negative thoughts can contribute to, or even cause, health problems. These include elevated cholesterol and triglycerides, heartburn, decreased nutrient absorption, and food allergies/intolerances. It's common for stress to affect the digestive processes because an outpouring of stress hormones diminishes the gut flora population, digestive enzyme levels, and the amount of blood reaching the digestive tract. The stress-related "butterflies in the stomach" feeling is why people are advised not to eat if they're upset, anxious, fearful, or angry. Pessimism, negative thoughts, and the inability to deal with stressors release cortisol, an adrenal stress hormone.

Feeling centered, serene and content, on the other hand, benefits us physiologically and physically. This inner peace lowers the risk of heart disease, boosts immune function (hence reducing the chance of developing infections), and keeps us energized and willing to engage the world. Optimism, positive thoughts, and the ability to respond appropriately to stressors release serotonin, a neurotransmitter (brain chemical) that creates a sense of well-being. The ability to remain calm also equals greater alertness and focus, as more nerve connections are being formed in the brain.

Researchers are now finding that stress is "contagious." If you're around other people who are stressed, you can become more stressed and anxious yourself. However, the inverse is also true. Being around people who are tranquil and content can help you connect to that calm, serene place inside of you.

Emotional constriction causes major adrenal gland malfunction as well. Normally, during a fight-or-flight response, the body shifts into combat (fight) or running (flight) mode. Blood travels away from the stomach and other internal organs to the periphery of the body so we can use our legs for running and our arms for attack. (The decrease of blood in the stomach area impedes digestion, which is why it's unwise to eat when you're afraid, angry, or stressed.) The pupils of the eyes dilate, allowing more light to enter so we can see the danger before us more clearly. (This is the origin of the expression, "blinded by fear.") After the danger has passed, the body returns to its original state of dynamic equilibrium.

Some people, however, are in a state of continual crisis. This is a contradiction in terms, because by definition

crisis is sudden, short-term danger. If the crisis persists long enough, the adrenals don't rest and they ultimately lose their ability to function properly. Also, the cells that contain receptors to adrenaline and cortisol remain in a constant state of agitation because they receive messages to remain alert to a danger that never materializes.

Being vigilant without relief is emotionally draining and physiologically exhausting. Eventually, the extreme adrenal fatigue drastically reduces the levels of fight-or-flight hormones, and the underlying emotion tends to be uneasiness and low-level anxiety rather than outright fear or terror. But by now, the person has become literally poisoned by his or her own fear.

Medical doctor Mona Lisa Schulz describes the role of the adrenals in converting negative emotions into physical symptoms, to which we give the names of specific diseases:

When we're under stress, or feeling certain stressful emotions, our brains [tell the adrenal glands to] release the hormone cortisol. Chronic stress or any chronic emotion—anger, hostility, fear, or sadness—is an important factor that will cause the body's adrenal glands to start to express those emotions in symptoms mediated by cortisol. Chronically elevated levels of cortisol are known to change the behavior of certain organs. The arteries begin to get stiff and hardened (arteriosclerosis). Hostility, a specific form of anger, is an emotion that's associated with hardening of the arteries. Chronically elevated cortisol has also been related to cancer. The cancer can affect various organs depending on what situations or settings the emotions occur in.²²⁵

All immune-related cells produce—and have receptor sites for—the same chemicals that control emotions in the brain. Therefore, suppression of emotion is synonymous with suppression of immune response. Schulz describes the role of stress in immune disorders:

The immune system . . . requires adequate levels of cortisol to function properly. This means that we need a certain amount of stress or stimulation in our lives to function efficiently and to feel alive. Otherwise we go to sleep. . . . Excessive cortisol, however, can rev up the immune system dangerously. . . . You're constantly living on the edge of the cliff of fear and ignoring your body's language of fear—trembling knees, racing heart, and sweaty palms. . . . So your body begins to interpret the whole world . . . as something to be feared. It secretes more cortisol and begins to make immune cells and molecules against all the

dangers out there, real and imagined, reacting as though the outer world were a giant Petri dish of bacteria. You wind up making immune cells against everything. This is what happens with people who get chronic colds, chronic bronchitis, or chronic fatigue. Ultimately, because they're making so many excess antibodies, the antibodies turn against the body itself. The result is autoimmune disease, such as rheumatoid arthritis, lupus, or vasculitis.²²⁶

Along with holding the breath, another way to avoid feeling is to *inhibit expression*. The expression can be vocal—we exclaim with excitement, cry with grief, scream with fear, yell with anger, laugh when something is funny, and so on. Or the expression can be an act generated by the larger muscle groups. This includes running, hitting, hugging, and so on. Physical therapist and psychotherapist Elizabeth Noble writes that when someone's "inner desire to interact with his or her surroundings" is "inhibited by shame, guilt, panic, or defeat, . . . personal resources are not translated into movement." The muscle can either suffer from poor tone, representing "a lost impulse, a giving up before a movement was even begun," or the muscle can become tense because "the movement was initiated but then suddenly suppressed. . . . Certain muscles become active at specific phases of development, therefore variations in muscle tone provide a map of a person's preverbal being."²²⁷

Damage can occur to both flaccid and taut muscles. On a short-term basis, one might experience "only" physical tension, exhaustion, or aches and pains. Over a longer period, the emotionally-based tension impedes circulation, further decreasing the supply of oxygen to the cells.

Tension also contributes to disease by slowing lymphatic drainage. The section on **Exercise** explained that the lymph system, without a heart to pump waste through the blood vessels, can move only in response to exercise or massage. Muscles that are chronically held due to emotional holding patterns impede movement in the lymph vessels. It's common for emotionally contracted people to suffer from congestion of the lymph nodes.

How can a person possibly remain contracted for such long periods of time? Fear is an effective (if ruthless) teacher. Tightening the muscles and restricting the breath saps one's focus, so it cannot be maintained indefinitely on a conscious level. The musculature, obeying a now forgotten message, retains its contracted state because there is no longer energy available for expansion and relaxation. This response is now completely automatic—the point at which suppression by the conscious will is transformed into unconscious repression.

The stiffness and lack of easy, flowing movement in the body reflects the emotions that originally caused it to freeze. In turn, the body's rigidity causes even more emotional blockage. The muscles from which the energy has been withdrawn are more than simply chronically contracted—they also prevent us from *expressing* that emotion. Eventually, contraction prevents us from knowing what the original feeling was, from being aware that it existed, or even from recognizing that we are holding back! Body-oriented (body-mind) psychotherapy can help not only by addressing issues cognitively and behaviorally, but also by working with physical blocks through touch—thereby catalyzing emotional release. In today's stressful world that trains people to be emotionally closed, working with emotions on a regular basis with a trained professional may help. (See Chapter 5, page 650, for Wilhelm Reich's chart on the physiology and biochemistry of the relaxation and fight-or-flight responses.)

Sometimes physical stresses are caused by work-related injuries, such as constant heavy manual labor (as with construction) or repetitive motion (typing at a computer). Bodywork that focuses overtly on physical problems such as injuries and mechanical dislocations may be preferable to emotionally-based work if the source of the problem is physical. Whichever is needed, giving the body what it needs helps it to repair itself. It's beyond the scope of this book to address bodywork in depth, so I will present just a few highlights of some effective modalities.

Massage

In many Western cultures that de-emphasize—and even outright discourage—the need for touch, it's not surprising that massage is underrated. In the United States, before massage centers became mainstream (and franchised), people sometimes regarded massage therapy as an exotic luxury, or as something weird and kinky. In truth, massage therapy is neither. Performed correctly, it can be a vitally important therapy for healing.

Massage and touch were regularly used in hospitals from the 1800s through the 1940s until the public became dependent on pharmaceuticals, and the focus in medicine shifted from the human healing element to technology. Although massage therapy is meant to overtly address the physical aspects of health, it also "touches" the underlying unresolved emotions that make us tense. Massage has many benefits. It relieves aches, pains, cramping and stiffness in the muscles. It reduces pain and swelling in injuries. And it increases joint flexibility and the capacity to move with greater ease. These benefits are due to the following physiological and biochemical effects:

The Power of Positive Touch

A massage therapist friend named Martin told me a remarkable story about one of his clients, a pregnant woman whom he massaged five days a week, every single week of her pregnancy. “She wanted to do everything possible to help the baby,” he declared. “I did deep tissue work, spending lots of time on her belly to open up and relax the area.”

It turned out that Martin was really administering to two clients—the pregnant woman *and* her infant—for at the end of the nine months, the baby had clearly been affected too. Martin described the mother’s labor. “She gave birth almost instantaneously. It took exactly one-half hour from the start of her contractions to when the baby popped out. The doctor couldn’t even put on the second glove, it happened so quickly.”

I asked him what the infant was like. “I have never seen a baby like this,” Martin replied. “By the end of four months, he cried every time he needed to eliminate. His mother would hold him over the toilet and he would go. When he started eating solid food, his mother fed him mostly organic, but not always. If the food wasn’t organic, he’d spit it out.”

What about the baby’s development? “He walked at the age of one year,” Martin reported. “Now at age two, he speaks in complete sentences, English and Chinese” (the parents’ native language).

Is the child happy? “Very,” Martin said. “He’s content to play by himself for hours. He’s a remarkable little boy. I don’t know if all those massages were responsible, but the mother is convinced they made the difference.”

- ◆ Chronic pain is reduced or eliminated due to increased blood flow, lymph flow, and endorphin production.
- ◆ Toxins are eliminated due to increased lymph flow.
- ◆ Waste materials are eliminated from the bloodstream due to improved circulation, which brings more oxygen to the cells.
- ◆ Immune function is improved due to increased production of endorphins.
- ◆ Relaxation, a sense of well-being, and better sleep are promoted—along with the alleviation of anxiety and stress—due to the increased production of endorphins.

During most types of massage, the client is draped with a towel or sheet except for the part of the body that the therapist is treating. However, there are many types of massage, and with some the client can remain clothed.

Probably the most well-publicized massage technique is Swedish. Its main purpose is to move the lymphatic fluids, which helps the body eliminate toxins. (See **Detoxification** later in this chapter for details.) While lymph drainage is very important, a versatile massage therapist can address other physical problems too. Many people could benefit from deep, yet gentle pressure to help unwind the tissues. Trigger Point Therapy, based on the innovative work of Janet Travell, is a good example. Specific points in tender muscles are pressed and released, which opens energetic blocks, discharges pain, and provides greater freedom of movement in apparently unrelated areas of the body. Neuromuscular Therapy, which focuses on posture as a diagnostic tool, addresses particular areas with gradual pressure to eliminate chronic pain and improve posture. All massage can help muscles create more cells and thus regrow—even in the opposite limb that’s not being massaged!

A good massage consists of more than simply smearing oil on the skin. People who are unimpressed with massage may have been exposed only to a light Swedish technique, rather than other forms of more effective deep tissue work and medical massage. A very close friend of mine is an excellent massage therapist, with over two decades of experience. Once I slipped and fell, and was limping in pain. After just one massage from him, I was astonished at how much more easily I could walk, pain-free. If you don’t feel drawn to massage, you probably never had a session from a well-trained, experienced massage therapist.

Myofascial Release

Fascia is the name for the thin, moist membrane that surrounds all of the muscles. Typically, there are several muscles grouped together inside of one individual fascial sheet. Fascia is also known as *connective tissue* for good reason: it separates and supports the muscles as they glide back and forth inside their envelope. Bodyworker Deane Juhan explains that the fascia encapsulate:

cells into tissues, tissues into organs, organs into systems, cements muscle to bones, ties bones into joints, wraps every nerve and every vessel, laces all internal structures firmly into place, and envelops the body as a whole. In all of these wrappings, cables and moorings it is a continuous substance, and every single part of the body is connected to every other part by virtue of its network.²²⁸

The fascial network, as it turns out, plays a significant role in rifting (see Chapter 4). But independent of rifting, the part that fascia plays in bodywork is worth noting.

Ideally, muscles should slide along, and move inside of, this flexible envelope with ease. When a muscle is stuck to its fascial sheath, it can no longer move correctly. Sometimes people incorrectly interpret this restriction of movement as resulting from muscular malfunction, rather than from glue-like adhesions that fuse fascia to the muscle. Once the muscle is free and its natural rhythm of movement is restored, the pain usually vanishes.

Not all massage therapists work with the fascia, although from my perspective, massage should routinely include fascial release. Some modalities focus solely on the fascia. One such technique is called Myofascial Release.

Myofascial Release is based on the work of Ida Rolf, who taught her students how to release the fascia through a technique commonly known as Rolfing. Having the fascia kneaded can be painful, but the increase in mobility can be profound, resulting in a complete change in posture.

The fascia can also be affected without being physically kneaded; see below.

Oriental Energy Modalities

Acupuncture and Acupressure

Oriental methods are quite different from Western massage. Instead of moving lymph or trying to tone muscles, most of the healing arts from Asia address the movement of *chi* (sometimes spelled *qi*, both pronounced “chee”) along the energy channels in the body, commonly known as *meridians*. Obstructions to this flow of energy, a deficiency of energy, or an excess of energy, affect the functioning of muscles, organs and glands. This contributes to, and even outright causes, health problems.

Acupuncture, one aspect of Traditional Chinese Medicine (TCM), is probably the most well-known of all the Oriental techniques that help balance energy. Tiny thin needles, placed in specific points along the meridians, manipulate and conduct energy (*chi*) through the body. (One practitioner analogizes the needles as literal antennas that make scalar wave energy more available to the physical body. See Chapter 4, page 215, for more information on scalar waves.) Acupressure modalities of Shiatsu, Jin Shin Do and Jin Shin Jitsu are similar to acupuncture; but instead of needles, hand pressure is applied to the meridians and acupoints. Shiatsu follows the meridians of acupuncture, while Jin Shin Do and Jin Shin Jitsu follow other channels that connect the main meridians to each other. Tui-Na (from China) is among many other modalities that also work with the body’s energy channels.

TCM teacher Daverick Leggett describes the function of the meridians:

The meridian permeates its associated organ along its pathway and we may consider the physical organ to be part of the meridian. The meridian/organ is an aspect of Organ, which in Chinese medicine is a set of related functions. So the meridian may be defined as a structural aspect of Organ function. It exists to integrate the function of the Organ with the physical body and is the means by which the Organ is made flesh and translated into movement.²²⁹

Meridians are real. They’re not some abstract, invisible, intangible lines of mystical energy that seem to connect different areas of the body. However, because meridians don’t follow the known pathways of the circulatory, lymphatic or nervous systems, for years allopathic doctors ridiculed Oriental techniques and denied that meridians even existed—despite the fact that acupuncture has been used successfully for thousands of years! Finally, with instruments sophisticated enough to take readings of the electromagnetic energy along the meridians and at the acupoints, no one can argue that these channels exist, and that they react very differently from ordinary tissue.

Meridians manifest physically in several ways. The layers of skin are thinner along meridians. The ends of nerves along the channels are connected to specialized cells called *mast cells*, which are involved in inflammation and allergic responses. And meridians are more responsive than other tissue to electric current and infrasound.

There’s a very real anatomical aspect of meridians. In the previous discussion of Myofascial Release, I mentioned *fascia*—thin sheets of connective tissue, covering groups of muscles that slide back and forth in these membranous envelopes. As it turns out, meridians appear along the fascia between muscles, muscle and bone, or muscle and tendon. In 1999, German medical doctor H. Heine wrote:

Recent anatomic research has shown that therapeutic effects of acupuncture may well be explained scientifically: . . . acupuncture points (APs) are characterized by a nerve-vessel bundle wrapped in a sheath of loose connective tissue... Eighty-two percent of all classical AP[s] are . . . perforations of the superficial body fascia pierced by a nerve-vessel bundle. In body areas not covered by this fascia (i.e. face, skull, fingers and toes) the principle of the mesenchyme-covered nerve-vessel bundle can also be demonstrated for APs.²³⁰

Connective tissue cleavage planes were also identified by two researchers at the University of Vermont College of Medicine. Using ultrasound imaging, they found an 80% correspondence between the locations of acupuncture

points and those of connective tissue planes. Also, as early as 1977, an article called “Trigger points and acupuncture points for pain: correlations and implications” appeared in the journal *Pain*. The authors understood that:

trigger points associated with myofascial and visceral pains often lie within the areas of referred pain, but many are located at a distance from them. Furthermore, brief, intense stimulation of trigger points frequently produces prolonged relief of pain. . . . Trigger points and acupuncture points for pain, though discovered independently and labeled differently, represent the same phenomenon and can be explained [by] . . . the same underlying neural mechanisms.²³¹

“Now we know that acupuncture points (and it seems the majority of trigger points) are structurally situated in connective tissue,” writes an osteopath-naturopath, “but how does application of a needle or pressure in one part of the fascia translate to distant sites? How does the fascia communicate with other parts of the body?”²³² Leggett responds:

The flow of qi in the meridians is best described at the physical level by the flow of electrons. The interstitial fluids [fluids between the cells] of the fascia, which feed in and out of the lymph and capillary systems, may also be seen as part of the flow of qi through the body.²³³

“The fascial system,” writes another acupuncturist, being a continuous sheet of connective tissue, permits a virtual connection of all the cells of the body. . . . Bioelectricity and biomechanical energy can be conducted to any part of the body through the fascia. *The meridians are the energetics of the fascial system.* . . . Through the stimulation of acupoints, we are creating an effect on the fascia of the body. [emphasis added]²³⁴

It’s no accident that 80% of acupuncture points are also used as myofascial trigger points in other therapies. The relationship of the meridians to fascia helps explain why acupuncture helps improve muscle function (because it releases the fascia), and why direct massage of the fascia helps increase energy (because it stimulates the meridians).

Western medical doctors most often use acupuncture for pain relief. Acupuncture stimulates the pituitary gland to release endorphins, hormones that block pain. However, meridian therapy also helps heal gastrointestinal, hormonal, neurological and emotional issues, and even microbial infections. The importance of the fascial network cannot be underestimated. Leggett writes:

How we see the meridians reflects both the strengths and limitations of our practice. The plumber, seeing the meridians as pipes, will better be able to understand the distributive function of the meridians as they carry nutritive qi to feed the body. The electrician, seeing the meridians as wires, will better understand their communicative function as they carry impulses. The engineer, seeing the meridians as framework, will understand their role in supporting the body structure.²³⁵

Qigong

For those who want to improve the flow of qi through their meridians, but dislike needles and don’t want to depend on practitioner visits to improve their health, there’s the ancient art of *qigong*. The Qigong Institute website describes qigong as a “moving meditation for prevention of illness, reducing stress, and managing chronic illness.”²³⁶ Qigong is a dance for one, consisting of slow, flowing movements and intentional breathing that’s focused on different areas of the body. The combination of movement, deep breathing, and mental focus engages the meridians (and stretches the fascia), thus allowing energy to flow more evenly to all of the organs, muscles, and bones. By eliminating energy blockages, qigong not only alleviates stress, but can be used to treat degenerative conditions and serious diseases.

For centuries, all qigong forms were part of an esoteric, heavily guarded spiritual tradition. By the mid 1970s, the practice became more accessible to people both inside and outside of China. Modern qigong focuses on the improvement of health rather than the esoteric arts. Tai chi is probably one of the most well known forms of qigong, but there are over one hundred different styles (some ancient forms, and some modern), each with its own focus, philosophy, and movements. One form, Chi-Lel™ qigong, has the largest medicine-free hospital in China. People are taught to heal themselves using various movements, but the seriously ill can receive treatment from experienced practitioners. On one videotape, a few practitioners use their hands to transmit energy to someone with a tumor, while a live, real-time ultrasound picture shows the tumor rapidly shrinking and disappearing in fewer than five minutes. The hands are the primary transmitters of qi, but other parts of the body are used to transmit energy as well. The books sold on the Chi-Lel™ Qigong website, chilel.com, contain many inspiring testimonials of people who healed serious conditions using qigong.

Those who practice qigong faithfully say that their health improves. Their medical records indeed show this. They also feel empowered because they take their health into their own hands, literally.

The Psychology of Adrenal Stress

Adrenal fatigue affects every aspect of our lives. In this edited excerpt from his book, *Freedom From Lyme Disease*, Bryan Rosner shares the psychological fallout of adrenal fatigue—what he calls “my own journey out of that deep, dark hole.”

When my adrenals were at their worst, I was simply in survival mode. Worn down adrenals cause horribly unpleasant symptoms such as near-panic level anxiety, terrible insomnia, a sense of impending doom, inability to deal with even the smallest daily tasks, severe depression, and explosive relational interactions. . . to name a few.

My first few months of recovery involved taking lots of Vitamin C and B vitamins, consuming plenty of animal fat and protein, sleeping a lot, resting a lot, and trusting that things were going to be okay. More than anything, it was important for me to forgive myself for lost productivity, missed life opportunities, and other losses that were incurred during this time. A sense of guilt and inadequacy are extremely common symptoms during severe adrenal fatigue, so it is important to recognize these emotions as symptoms of the condition, not as a true reflection of one's own self-worth. Extending grace to one's self during recovery is so important. . . .

People with adrenal fatigue are typically also perfectionists and people pleasers. These patterns of behavior tend to weaken the adrenal glands, because we experience anxiety and stress when those around us are displeased with us, or at least when we think they are. We also experience anxiety and stress when our expectations of perfection in people or situations are met with the reality that people and situations aren't perfect.

Weakened adrenals cause symptoms of emotional instability, which makes us even more susceptible to our perfectionist and people pleasing tendencies. So, you can see that it can become a vicious cycle.

Recognizing this pattern is very important. Since ultimate self-acceptance can never come from an external source, our anxiety and stress can never be quenched by other people. Likewise, people and things will never be perfect, so our anxiety and stress will never be quenched by discovering perfection in our lives. We must extinguish the anxiety and stress with acceptance: acceptance of ourselves, and acceptance of the imperfect people and things in our lives. . . .

In addition to the unhealthy feelings involved in perfectionism and people pleasing, there is also an unhealthy level of work, energy expenditure, and effort. Perfectionism lacks a finish line, or end goal, to life's activities and interactions with others, so perfectionists never grant themselves rest. . . . People

pleasers and perfectionists never feel like work is done, settled, good enough, or acceptable enough. We always feel like more could be done, should be done, and must be done. Guilt drains us like no other emotion. . . . We must set reasonable goals for ourselves, and after we've met those goals, rest and ignore the voice that tells us, “No! You haven't done enough! You should be doing more!”

People who have adrenal fatigue, perfectionist tendencies, and people pleasing traits must work very diligently to change the way they think about the world. . . . Tell yourself and learn to believe the following statement: “Doing my best is good enough. After I do my best, I deserve rest, down time, and sleep. Taking care of myself is a worthy priority.” Until you really believe this statement, you will be susceptible to continued drain on your adrenal glands. Like a slow leak in a tire, that drain will prevent you from making forward progress.

We must also diligently look for other areas of our lives that may be causing a slow leak, or drain, on our adrenal glands. Past events, even those that occurred decades ago, may still be draining us emotionally. [Lack of] forgiveness, guilt, shame, regret, and other feelings might be causing low-grade anxiety and keeping our adrenals from recharging completely. It may even be possible that we've been living with these feelings for so long that we don't immediately recognize them when conducting an inventory of our state of mind. . . . *Any kind of emotional distress, even at a very low level, places a small drain on the adrenals and must be addressed and healed if the adrenals are to fully recover.*

. . . [If] we have not intentionally chosen a healthy lifestyle to model our lives after, we will instead follow the “lowest common denominator” examples in our society and culture . . . intentionally put in our path by corporations and their marketing departments. The single and primary goal of corporations is to relentlessly convince us that we are inadequate, dissatisfied, un-whole people who will be fixed by the products they offer. If we listen to this message, we start to believe it. We start to think that we really don't have enough—enough money friends, vacations, good looks, talents, or fill-in-the-blank attributes. This dissatisfaction creates a desperation to change our circumstances and gain more acceptance and approval from society at large. So we increase our work loads, spend less time relaxing and taking care of ourselves, and set off on the busy task of filling our lives with more—more of everything.

This pattern of behavior is one of the primary triggers of adrenal fatigue.

CranioSacral Therapy

One Western technique that in many ways matches the subtlety of the Eastern modalities is CranioSacral Therapy (CST). The seeds of CST were first sown in 1970, when osteopathic physician John E. Upledger assisted during a neck surgery and observed a subtle but unexplainable rhythmic movement of the head, neck, spine, and tailbone. Intrigued, Upledger did some research and discovered the theories of Dr. William Sutherland, who in the early 1900s had declared that the bones of the skull are constructed to allow for movement. From 1975 to 1983, Upledger expanded and refined Sutherland's theories by working with anatomists, biophysicists, bioengineers and physiologists at Michigan State University, where he was a Professor of Biomechanics. The research team confirmed the existence of cranial bone motion and described its mechanism. From this research, Upledger developed a therapy to correct the motion when it became stuck.

The craniosacral system is a pump. It consists of membranes and cerebrospinal fluid that surround and protect the brain, spinal cord and attached bones—the skull, face and mouth (the *cranio* or *cranial* part), down to the tailbone or sacrum (the *sacral* portion of the therapy). The craniosacral system is often compared to the pulse

of the cardiovascular system due to its intrinsic natural rhythm that can be felt throughout the body. However, the craniosacral system doesn't always function properly. Restrictions in the rhythm are fairly common, resulting in a halted flow of bioelectrical impulses. This means incompletely or incorrectly transmitted messages from one part of the body to another. Not surprisingly, poor function of the brain and spinal cord can cause sensory, motor, and neurological disabilities.

The goal of CST is to improve central nervous system function. Using a soft pressure of about 5 grams (the weight of a nickel or other small coin), a skilled CranioSacral Therapist detects irregularities or stoppages in the rhythm at key points along the head and spine. Corrections, done with a similarly light touch, help the body release restrictions and blockages and make corrections on its own. The therapist does not decide how the body needs to correct itself, but instead follows the movements of the body as it unwinds, layer by layer.

CST has been used for a wide range of medical problems, including migraines, temporomandibular joint dysfunction (TMJ), chronic neck and back pain, digestive disturbances (including colic), mental and emotional problems (autism, post traumatic stress disorder and learning disabilities), insomnia, fatigue, and neurological damage (including brain and spinal cord injuries). Many people who get better with CST have had chronic injuries that weren't helped by other therapies.

All types of practitioners are taught CST: naturopathic, osteopathic and medical doctors, chiropractors, doctors of Oriental medicine, psychiatrists, psychologists, dentists, physical therapists, occupational therapists, nurses, acupuncturists, and massage therapists.

CST is extraordinarily gentle, making it ideal for children and for infants suffering from birth trauma. This therapy is also especially beneficial to people with head, neck or back injuries. CST not only safe, it's effective. This is a good example of "less is more."

Chiropractic

While chiropractic does deal with the central nervous system, it's quite different from CranioSacral Therapy. Chiropractors specialize in realigning the skeletal structure—particularly the spine—to release any nerves that are pinched or compressed so that nerve impulses can again flow unimpeded throughout the body.

Chiropractic was discovered in 1895 by D.D. (Daniel David) Palmer during an encounter with a man who operated a janitorial service in the office building where Palmer worked as an energy healer (called a "magnetic" healer at that time). Palmer restored the man's hearing by

The Truth

We chiropractors work with the subtle substance of the soul. We release the prisoned impulse, the tiny rivulet of force, that emanates from the mind and flows over the nerves to the cells, and stirs them into life. We deal with the magic power that transforms common food into living, loving, thinking clay; that robes the Earth with beauty, and hues and scents the flowers with the glory of the air.

In the dim, dark, distant long ago, when the sun first bowed to the morning star, this power spoke and there was life; it quickened the slime of the sea and the dust of the Earth and drove the cell to union with its fellows in countless living forms. Through eons of time it finned the fish and winged the bird and fanged the beast. Endlessly it worked, evolving its form until it produced the crowning glory of them all. With tireless energy it blows the bubble of each individual life and then silently, relentlessly dissolves the form, and absorbs the spirit into itself again.

And yet you ask, "Can chiropractic cure appendicitis or the flu?" Have you more faith in a knife or a spoonful of medicine than in the power that animates the living world?

—B.J. Palmer
chiropractor (1882–1961),
and son of the inventor of chiropractic therapy

moving back into place some bones in his middle spine—untwisting nerves that had been so compressed, the man had been deaf for 17 years. It was D.D. Palmer's son, Bartlett Joshua (known as B.J.), who brought chiropractic from obscurity to the public as a bona fide profession.

It's amazing what can be accomplished in the hands of a skilled chiropractor. Unfortunately, chiropractic adjustments are still ridiculed and opposed by many allopathic doctors, who are so fixated on breaking the will of (as they see it) an uncooperative body, they cannot conceive that if the body receives the gentle and supportive guidance that it needs, it can correct and heal itself.

When the spinal vertebrae are out of alignment, it's called a *subluxation*. Extensive documentation shows that correcting the subluxation can cause many positive physical changes and improve a wide range of conditions. Aside from the elimination of pain in the arms, legs or back, chiropractic can help clear many serious conditions including colitis, sinus infections, and indigestion. Adjustments can even improve poor vision, sharpen reflexes, and restore memory.

These apparently magical changes are not mysterious once you realize that all of the nerves governing voluntary and involuntary processes in the body meet at the spine. If one of the bones (vertebrae) in the spine compresses a nerve, the amount and kind of information traveling to the specific organ, gland or muscle at the end of the nerve chain will be severely compromised. Like massage therapists, chiropractors—with a few exceptions, depending on the laws where they are practicing—do not diagnose or treat disease. They free the stuck bones that impinge on the nerves that interfere with the body's function. One chiropractor writes:

[Chiropractic] is based on the deductive principle that the universe is perfectly organized, and that we are extensions of this principle, designed to express life (health) and the universal laws. Since vertebral subluxations (spinal-nerve interference) are the grossest interference with the expression of life, the practice of chiropractic is designed to analyze and correct these subluxations, so that the organism will be free to evolve and express life to its fullest natural potential.²³⁷

As with massage, the methods of chiropractors vary greatly, ranging from extraordinarily light, gentle and specific non-force techniques to the more common, rigorous thrusts that people normally associate with chiropractic adjustments. It's worth the effort to find a chiropractor whose temperament and techniques work for you. Proper care could avert a surgical procedure. And it might even save your life.

Rubinfeld Synergy

There may be an emotional component to the physical symptoms you're experiencing. The emotion might be from childhood. Or, it could be due to unresolved trauma; conflicts with family, friends or job; or present-day frustration and upset (perhaps over being ill).

Negative emotions that are not too emotionally charged and that are based on a recent or current situation, can often be diminished through talking. Ideally, your bodyworker is amenable to being a sympathetic listener. However, most bodyworkers are not trained to deal with intense emotions, based on past trauma, that may get stimulated. If you're a practitioner, even if you don't want to focus on helping your client deal with feelings that may arise, you still need to be comfortable enough with strong emotion to provide compassionate understanding (and remain centered if outbursts do occur). It would be helpful if all bodyworkers were required to receive training in how to process emotions (their own and their clients').

If you're a client, consider body-mind psychotherapy in addition to physically-oriented modalities. A good description of a body-mind approach is provided by Ilana Rubinfeld, who in the 1960s created *Rubinfeld Synergy*—a combination of Alexander Technique, Gestalt, Feldenkrais work, and other methods. Rubinfeld was not always a psychotherapist. Her new therapy was developed due to problems she encountered as a classically trained musician at the Juilliard School of Music, where she played viola, oboe and piano, and conducted orchestras. "This strenuous activity eventually took quite a toll on my body," she wrote. None of the students were taught "how to stand, how to move, [or] how to conserve our energy. . . . As a result, some of the other students and I developed back spasms. I went from doctor to doctor to alleviate the pain." The sprays and injections she received provided temporary relief, in time for a performance.

But then the pain would return. Finally, friends . . . recommended that I look into the Alexander Technique, a method designed to teach a more efficient use of the body. . . . During a lesson, [my teacher] Judy would make subtle adjustments in the way I was standing, sitting, or moving. She touched me with a unique touch which seemed to have a thought in it. I was very moved by what she did, but I had no framework with which to understand what was going on. [As I continued to "let go"—literally giving up control of my head and allowing Judy to hold my head for me] . . . I noticed that I kept feeling better.

One day . . . while Judy was touching me gently, I began . . . to sob from a very deep place.

She hadn't pushed or intruded; she had just put a gentle hand on me. After several sessions, since I was continuing to cry, she recommended that I go to a therapist. I followed her advice, in spite of the fact that therapy was not for "normal" people in those days. My Alexander teacher was helping my body feel better, but now I could not contain the emotions the work had released.

The analyst I went to was wonderful. But by the time I would get to him, the released emotions from the Alexander lesson could only be analyzed as a distant memory. So, I had one person who touched me but would not talk to me about it; and another who talked to me but would not touch me. Between the two of them, I created my own holistic therapist.

Today we regard it as obvious that the body, mind, emotions, and spirit are all connected. But only as short a time ago as 1960, this "simple" wisdom was considered esoteric.²³⁸

Our Healing Connection

In some parts of the world, bodywork modalities are not accepted—perhaps because some people associate touch with sex. The dissociation from our bodies, and from this most primal method of communication, is intensified by the mechanization of medicine. What was once intuitive, and more art than science, has been usurped by rigidity, dogma, and fear. Don't let shyness prevent you from experiencing these powerful and effective modalities. You can read books on massage, bodywork, and therapeutic touch for the layperson. Plus, you don't have to be a professional massage therapist to touch your loved ones in a healing way. We heal through touch more than we realize.

LIGHT AND COLOR

Our Therapeutic Sun (Full-Spectrum Light)

As far back in history as we know—from the Arabians and Chinese to the Incas and Aztecs—human beings have worshipped the sun as the source of life, fertility, and healing. Over three thousand years ago, an Egyptian priest-king founded a religion based on the sun god. Two thousand years ago, Zoroaster (Zarathustra) taught the Persians about the sun's power. Five hundred years later, in his health temple on a Greek island, the physician Hippocrates—known today as the "Father of Medicine"—used diet, rest, hydrotherapy, and exercise as his chief medicines, along with the sun. All over the world, solariums (enclosed sun rooms) have been found in the archaeological ruins of private homes.

The ancients were not the only sun worshippers. Less than a century ago, proponents of Natural Hygiene—a movement that reached its apex in early 20th century Europe, particularly Germany—advocated spending at least a few hours every day naked in the sun, to allow the entire skin surface to absorb the sun's healing rays. Natural Hygiene proponents advocated what were considered revolutionary practices at the time: fresh, raw foods; adequate exercise and sleep; a positive emotional state; moderation in outlook, word, and deed; and lots of time outside in the sun. In retrospect, it seems strange that all this common sense advice was thought radical. Bernarr Macfadden, the Natural Hygiene proponent in the United States (where it was called Physical Culture), wrote:

Whenever sick and wounded animals can do so, they place themselves where they can secure as much sunlight and sun *heat* as possible. . . . By doing so they recover with comparative rapidity.

Understanding that the mind governs the body is the first vital step towards understanding the body and its functions. The mind uses the body to translate thought into physical reality. A sense of oneself as being small can, through physical tension, transform even a tall person into a stooped, slumped, cramped, "small" person. Likewise, a sense of strength and power can cause a small person to move with such energy and expansiveness that his or her size becomes irrelevant and may even be unnoticed [as being diminutive].

The mind can re-educate the muscles in ways that are harmful or helpful. Through the mind, the process of physical degeneration can be reversed. We can eliminate the idea of the inevitability of disease. If we feel weak, small, or helpless, we can practice exercises—physical and mental—which give us a sense of expansiveness. If we notice any tendency in the body to improve, any sign that a process of degeneration is reversing, we should do everything in our power to encourage it. We can allow the body to become more at ease with itself, more flexible, and less stressed. Even if we have undergone damage to nerves or muscles, that tissue can be regenerated through a program of mental and physical exercises. To do this we have to work with both body and mind, so that the non-material concept of health is manifested in our material being. This takes a lot of work. The loving hands of a friend, therapist, parent, or mate can help bring healthy stimulation to our muscles and nerves.

—Meir Schneider
Self Healing: My Life and Vision, 1987

Humans, who may know nothing whatever of ultraviolet and infrared rays, or of the curative effect of these rays, likewise turn instinctively to sunlight and sun warmth, or to artificial warmth, when indisposed or ill.²³⁹

Our sun is actually a giant star that emits many different frequencies on the electromagnetic (EM) spectrum. The electromagnetic waves from the sun vary in length from 3,100 miles (4,990 kilometers) long for electric waves on the very low-frequency end, to 0.00001 nanometers for cosmic rays on the very high-frequency end. (A nanometer is one-billionth of a meter, and a meter is about three feet.) Most of the frequencies on the EM spectrum are invisible to the human eye except for the small band of visible light, which we see as colors. Visible light comprises a tiny portion of the sun's emissions. Sunbathers are familiar with the invisible ultraviolet or UV portion of the spectrum. (Although UV is sometimes called "UV light," it's not not visible.) The invisible infrared rays, which are the source of the sun's heat, comprise 80% of the sun's emissions. The so-called heat rays "are not heat in the ordinary sense," wrote John Harvey Kellogg, surgeon and creator of the electric light sauna cabinet, over one hundred years ago, "but a form of energy which is capable of being converted into heat, and which becomes heat when brought in contact with an opaque body—that is, a substance which offers resistance to the passage of the rays."²⁴⁰ The heat (thermic) rays from the sun are the visible red and invisible infrared rays. The specifically chemical (actinic) wavelengths, which cause biochemical reactions in living tissue, are the visible blue, visible violet, and ultraviolet rays. These different wavelengths affect virtually every cell of the human body, including the eyes, skin, and pineal gland.

Despite the sun's benefits, in the US people are avoiding it more than ever, fearing skin cancer. Sunscreen lotions, creams, and oils are selling in record amounts. It's easy to be alarmed by the rapidly rising cancer toll—currently one in three, and projected to soon claim one in two. But is the fear of the sun realistic? How could the sustainer of all life really be that dangerous? What is the basis of the Natural Hygiene claims that being in the sun can cure heart disease, tuberculosis and eczema—and in fact, almost anything that ails you? Moreover, if the sun is so healthful, how did we stray so far from the truth?

One reason given for avoiding the sun is (at the very least) skin damage and (worse) skin cancer, due to the

burning caused by overexposure to the sun's ultraviolet rays. However, as often happens, fears that initially might seem legitimate fall apart on closer scrutiny. Not all UV light is the same. Equally important, UV light cannot be analyzed in a vacuum. Let us continue.

Ultraviolet Wavelengths

For thousands of years, our ancestors utilized the sun's healing rays by sunbathing. Correct tanning technique involves gradually building up exposure to the sun so the skin has time to produce layers of *melanin*, a pigment that protects against sunburn. Light skin contains less melanin than dark skin, so fair complexioned people burn much more easily than darker people. Among light skinned folk, redheads and blondes burn more easily than those with auburn, brown, or black hair. Virtually everyone living in tropical countries around the equator is black, brown or olive skinned, an evolutionary adaptation. (Nevertheless, the sun does seem harsher than it was 30 years ago, probably due to higher levels of pollution; so sunbathing seems less pleasurable than it used to be.)

Most of the fear surrounding the danger of UV rays originated from frankly idiotic laboratory tests.

Optometrist Jacob Liberman describes them:

In 1981, . . . monkeys were tranquilized; then their eyelids were pried open with lid clamps. With the monkeys' pupils fully dilated, researchers beamed light into their eyes from a 2,500-watt xenon lamp [that contained high levels of UV radiation] for 16 minutes. . . . Although the results of the study showed that there was some retinal damage, it is hard for me to imagine that the researchers could have concluded anything else. They gave these monkeys a highly abnormal exposure to ultraviolet light *that would never happen in real life*. In real life, monkey's pupils and eyelids *would naturally adjust* to protect their eyes, *just like the pupils and eyelids of humans do*.

Another argument science makes against ultraviolet light is that it causes cataracts. The same kinds of studies on laboratory animals concluding that UV light causes retinal damage are frequently used to conclude that UV light also causes cataracts. Of course the eyes in these studies were damaged. Did they expect vision to improve? Similar studies, in which the skin

In the beginning there was nothing. God said, "Let there be light!" And there was light. There was still nothing, but you could see it a whole lot better.

—Ellen DeGeneres
American comedian, actress,
writer, television host
and producer
(born 1958)

Cancer and Biophotons

The existence of biophotons—quantum currents of low-level luminescent light that are transmitted by all living things for communication—was proven by German biophysicist Fritz-Albert Popp in 1974. He built the *photomultiplier* to measure these emissions.

In healthy tissue, biophotons are coherent and possess a natural periodic rhythm. In contrast, cancer cells are incoherent and lack these periodic rhythms. The body's innate photo-repair mechanism works best at the 380-nanometer (nm) wavelength. Not surprisingly, this wavelength is the one that cancer-causing compounds react to, scramble, and then re-emit at a completely different frequency.

To heal DNA, the correct frequency of light must be applied, which stimulates the body's photo-repair system. Interestingly, mistletoe, which is injected into cancerous tissue to eliminate it, emits a 380-nm wavelength.

of animals is repeatedly burned with high levels of UV light, also have been done to “prove” that ultraviolet light causes skin cancer. . . . It is impossible to come to valid scientific conclusions based on these experiments, because they are performed under extremely unnatural conditions that do not, and never will, exist in reality and would be considered highly abusive if they were attempted on humans. . . . *The abuse of the animals in their studies causes cancer, blindness, and death!*²⁴¹

Constant direct sun in the absence of protective nutrients, can damage the eyes and body. It's difficult to comprehend how any sane (or compassionate) scientist could conduct such atrocious experiments and believe that they have merit. “When too much oxygen is given to premature babies in their incubators, it causes blindness, deafness, and brain tissue damage. Fortunately, this has not resulted in any recommendation that we should try to get along without oxygen,” wrote the late Dr. John Ott, a widely respected pioneer on light and its effects on living organisms.

Yet that is exactly what is happening in prevalent views about ultraviolet. . . . Without doubt, too much ultraviolet is harmful—particularly the short-wavelength . . . ultraviolet that is mostly filtered out of sunlight [anyway] by the atmosphere, and especially the upper ozone layer. [However] fear of too much ultraviolet is causing many people to overprotect themselves from sunlight, to the point of creating a deficiency in a very essential environmental life-supporting energy.²⁴²

Ultraviolet wavelengths, discovered by the German physicist Johann Wilhelm Ritter in 1801, lie between visible light and X-rays. The UV radiation band itself is subdivided into three wavelength bands: near-UV (UV-A), Mid-UV (UV-B), and far-UV (UV-C). All of the rays within these ultraviolet bands can tan or burn the skin, but each bandwidth has its own unique properties. UV-A has the longest wavelengths, ranging from about 320 to 400 nanometers (nm). It's sometimes referred to as blacklight because of its ability to make colors glow in the dark. About 50% of these very long wavelengths penetrate to the blood vessels that feed the skin, while a tiny percentage penetrate considerably deeper. UV-B ranges from about 290 to 320 nm. These wavelengths activate, within the skin, the production of Vitamin D3, which among other functions helps the body absorb calcium, phosphorus, and Vitamin A. (See Sidebar, “Sunlight and Vitamin D.”) UV-C, ranging from about 100 to 290 nanometers, is largely blocked by the Earth's ozone layer. However, it's still a highly effective germicidal agent; many pathogens are killed by 254 nm. About half of the 290-nm wavelengths penetrate to just under the surface of the skin, while a very small percentage penetrates slightly deeper.

Within the medical community, UV is well known for its powerful germicidal abilities. In *Sunlight Could Save Your Life*, medical doctor Zane Kime writes, “Not only does the sun have a direct bacteriocidal effect on the skin, but it also changes the oils in the skin into bacteriocidal agents themselves. Even the vapors rising from natural skin oils . . . are capable of killing bacteria.”²⁴³ Scientists researched UV's germicidal capacity as far back as 1886 with *Bacillus anthracis* (anthrax), followed by *Pasteurella pestis* and *Streptococcus* in 1887. The bacteria for tuberculosis, cholera and *Staph* infections were tested by 1892; *E. coli* was tested in 1894; and *Shigella* (which causes dysentery) was tested in 1909. All of the researchers who exposed their germ colonies to UV light reported the same good news: UV light kills microbes involved in infectious diseases—perhaps, at least in part, because it stimulates the production of ozone in the body. Based on this knowledge, natural sunlight, and UV created by special lamps, were utilized for many different conditions.

In 1903, Swiss physician Auguste Rollier established the first European clinic in the Alps for the non-surgical treatment of tuberculosis using solar energy. This proved so successful that England, the US, France, Austria, Israel, Italy, and other countries established similar clinics. That same year, Niels Finsen from Denmark won the Nobel Prize for being the first person to successfully treat skin tuberculosis with UV therapy. Worldwide, doctors were prescribing sunbathing, often nude, for

people with erysipelas (a skin infection with a mortality rate of 10%), tuberculosis of the skin and bone, lupus, and other diseases.

Then in 1935, a researcher left Petri dishes of *Staph* in the open air of an operating room during the time that surgery was being performed. He collected the dishes after one hour, Kime reports.

Having suspended a bank of ultraviolet lights from the ceiling of the operating room, he found that all the bacteria within 8 feet of the lights could be killed in 10 minutes, even though the intensity of the lights was reduced to a point where blonde skin at a distance of 5 feet would not react with reddening until after 80 minutes of exposure.²⁴⁴

Knowledge that UV light remains beneficial for quite a while before its effects become destructive, and that the rays destroy germs in the air as well as on the skin,

led to widespread use of UV lamps to disinfect hospitals and clinics. In Russia, factory workers were exposed to special low intensity UV lights that weren't strong enough to cause reddening of the skin, but decreased bacterial contamination of the air by 40% to 70% and cut employee illness by half. Articles continue to report highly successful treatments for mumps, asthma, blood poisoning, viral pneumonia, childbirth infections, peritonitis, and even cancer. One study of people with tuberculosis showed that among those receiving UV treatment, three-quarters lived compared to about one-quarter of those treated surgically or by other allopathic methods.

The favorable results with tuberculosis inspired the practice of removing some blood from a subject, infusing it with UV light, and then injecting it back into the subject. Just a small amount of UV-treated blood can impart germicidal properties to the entire bloodstream, even those portions that were not extracted. This procedure is

Sunlight and Vitamin D

Vitamin D, which is widely known as a fat-soluble vitamin, is not a true vitamin. As scientists discovered relatively recently, Vitamin D is actually a hormone called *calciferol*. It's found in only a few foods—fish, eggs, raw butter, and animal fats (from naturally raised animals only, because factory farming deprives the animals of what they would eat in the wild and thus alters their nutrient composition). However, even when these foods are supplied, the body must still transform the Vitamin D before it can be used.

Even more important, the body makes this “vitamin” from the sun. When the sun's UV-B rays strike the skin, the cholesterol in the skin (which is more highly concentrated there than in any other part of the body) changes into Previtamin D. Then, with further sun exposure, the Previtamin D is transformed into several other substances that the body needs. Within twenty-four hours, half of the Previtamin D that has not been converted into other products is transformed into Vitamin D3 by the body's own heat, by the liver, and eventually by the kidneys. Vitamin D3 can be toxic in large amounts, but the body compensates for this in two ways. One, the vitamin is released very slowly, and two, excess Vitamin D3 always reverts back into Previtamin D.

This natural regulating process takes care of even high levels of Vitamin D3 produced by the body. On the other hand, *synthetic* Vitamin D—its D2 form, often added to commercially processed foods (through a technique called “fortifying”)—causes problems. When synthetic Vitamin D is consumed, people suffer bone loss because the body's absorption of calcium and phosphorous is impaired (though exposure to even minimal amounts of *sunlight* significantly increases the absorption of these minerals). At high enough levels, Vitamin D2 is toxic, even deadly. It can cause hardening of the arteries and calcification of the soft tissues in the body. Rats and mice fed the synthetic vitamin comprising 0.1% of their diet, died within 48 hours. “It would seem that the public should at least be offered the choice of receiving their Vitamin D safely from the sun, as nature intended,” reflects Zane Kime. “Supplementation of food with a hormone, the intake of which cannot be regulated, is in reality an example of a mass experiment. . . . This seems strikingly unnecessary when we can safely obtain all the Vitamin D that we need by just spending a few minutes in the sunshine. . . .”²⁴⁵

Unfortunately, just “a few minutes in the sunshine” isn't sufficient for most of us. In areas beginning 37 degrees too far north or south of the equator, the oblique angle of the sun doesn't generate sufficient Vitamin D-producing UV-B rays to help us produce calciferol. “The current suggested exposure of hands, face and arms for ten to twenty minutes, three times a week, provides only 200 to 400 IU (International Units) of Vitamin D each time . . . during summer months,” writes Krispin Sullivan. Although this amount will help prevent rickets in children, we require 4,000 IU every day to ensure the health of all vital functions. “What the research on Vitamin D tells us is that unless you are a farmer, lifeguard or a regular sunbather, you are highly unlikely to obtain adequate amounts of Vitamin D from the sun. The balance must be obtained from food.”²⁴⁶

Interestingly, most commercial sunscreens block ultraviolet-B (UV-B) but not ultraviolet A (UV-A). Preliminary research suggests that UV-B confers more benefits to the body and skin than UV-A.

more popular in Europe than in the US; but all over the world, UV is used to purify water systems.

UV radiation does more than kill germs. It stimulates the skin to create beneficial Vitamin D. It also inactivates excessive amounts of steroids, some of which accelerate the growth of cancer.

It can be difficult to separate the different properties of the sun's individual electromagnetic wavelengths because many rays augment and complement each other. Consider one known relationship between UV and another group of wavelengths, far infrared (FIR). Macfadden wrote:

Sunburn is not, in reality, a burn at all, for it does not appear for several hours after the causative exposure; it is simply an . . . inflammation resulting from irritation by the peculiar [biochemical] action of the ultraviolet rays. . . . [The Swiss physician Rollier] asserts that, because

his patients with deep-seated tuberculosis are cured when they become deeply pigmented and those who do not pigment respond far less favorably to the treatment, the pigmentation must render possible the deep penetration of the long [FIR] rays. This theory would suggest that the long, heat [FIR] rays are the curative rays, while the short, actinic [UV] rays *are merely servants preparing the way so that the heat rays may enter the body.* [emphasis added]²⁴⁷

That UV produces a biochemical reaction to escort FIR into the body makes sense, especially when you consider that *melanin*, the pigment created by the skin in response to UV, contains copper. Copper is such a good conductor of electricity that it's used in electrical wiring.

Now let's look at far infrared or FIR, and the larger spectrum to which it belongs, infrared.

The Truth about Sunburn, Skin Cancer, and Cataracts

In our so-called civilized world, we are taught that exposure to the sun will bring not only sunburn, but also cataracts and skin cancer. It's true that people have gotten sunburned and skin cancer from sun exposure, and that even minimal exposure to UV-B rays significantly increases the risk of cataracts. But, as researchers are discovering, these conditions occur much more frequently if one is eating fake food. Often, the effects of the sun's rays can be either harmful or healing *depending on the types of fats in one's diet.*

Royal Lee, the whole foods supplement manufacturer, discovered a substance primarily in oils that he called *Vitamin F*. People who did not consume enough Vitamin F, he said, were much more likely to develop thickening of the skin, sunstroke, canker sores (from the herpes virus), itchy skin, hives, and skin cancer. Many people who did get enough sun exposure to produce enough Vitamin D still developed those conditions. Therefore, Lee surmised, there must be another factor involved. What is usually considered a Vitamin D deficiency is actually a deficiency of Vitamin F—otherwise known as *polyunsaturated fatty acids* in scientific textbooks.

Vitamin F has specific functions that complement those of Vitamin D. Each balances the effects of the other. Vitamin D pulls calcium from the gut and the tissues and deposits it into the blood. Vitamin F pulls calcium from the blood and deposits it into the tissues. If a person has plenty of Vitamin D but no F—which occurs more often than the other way around—there will be abundant calcium in the blood but not enough in the bodily tissues. Insufficient Vitamin F in the tissues not only can augment health problems, but it will even *cause* them. (Of course, there must be enough calcium in the body at all times for the bloodstream, the gut, *and* the tissues, because calcium normalizes the body's immune response in addition to helping the formation of bone.)

It's easy to become deficient in Vitamin F if one eats the Standard American Diet (SAD) of fake food (junk food). In the manufacture of synthetic fats (margarine, shortening, and liquid vegetable oil), Vitamin F is destroyed, and misshapen fats called *trans fats* appear in the final product. The body cells, which are forced to work with what they are fed, surround themselves with straight trans fat molecules instead of the horseshoe-shaped Vitamin F fat molecules. The malformed, straight trans fat molecules literally create gaps in the cell membranes through which carcinogenic materials can enter relatively easily, as the cells no longer have adequate protection.

Fake fat molecules also reflect the presence of highly unstable atoms at the quantum level: free radicals. This means that lone electrons are knocking other electrons out of place—so that before long, electrons are acting like billiard balls, destroying the integrity of cells and decreasing their ability to metabolize oxygen. When the body is low in oxygen, all kinds of disease conditions can develop, including cataracts and cancer.

This is how the ingestion of the wrong kinds of fats—fake fats—can lead to illness. Despite what the food industry would like consumers to believe, the sun is not the culprit. If anything, being in the sun “sheds light” on what we may need to correct in our lifestyle.

Infrared Wavelengths

Like UV wavelengths, infrared (IR) wavelengths are also invisible. And they, too, exert incredibly powerful effects on living organisms.

As mentioned earlier, 80% of the sun's radiation is infrared, which provides heat. Even though IR from the sun is filtered by atmospheric gases, wavelengths still reach the Earth. Infrared radiation heats in a most unusual way. Rather than directly affecting the air itself, which is impervious to being heated, IR penetrates and warms matter.

As with UV, infrared emanations are divided into several categories. Near infrared, the shortest wavelengths, range between about 0.72 and 1.5 microns. Middle infrared, medium length wavelengths, range between about 1.5 and 5.6 microns. And far infrared, the longest wavelengths, range between about 5.6 and 1000 microns. (One micron equals one-millionth of a meter.) All matter above the temperature of absolute zero (minus 459.67°F, or minus 237.6°C) emits some degree of IR.

The heating properties of *far* infrared (FIR) were discovered in 1800 by German astronomer Frederick William Herschel when, in an attempt to measure the temperature of various rays of visible light, he put two thermometers outside the range of the visible light. The FIR rays, which are next to the red color band, turned out to be the hottest of all the wavelengths he tested.

Far infrared accelerates many biological functions in the body. It increases the number of lymphocytes, a type of white blood cell in the front line of the body's immune response. It also stimulates the lymphocytes to produce larger amounts of the biochemical interferon (which is so helpful in fighting infection that it has been synthesized by drug companies and given to people with various cancers). FIR increases the levels of enzymes (which immune cells use to transform and remove toxic chemicals). It increases the amount of hemoglobin in the red blood cells, helps the hemoglobin release oxygen and carry away carbon dioxide more easily, and helps the cells of the body to better utilize the oxygen they receive. FIR elevates the production of hormones—including thyroxine from the thyroid, which means a faster metabolism. Far infrared also helps the body produce the “signalling molecule” nitric oxide, which helps preserve the elasticity of the blood vessels (by telling them to either dilate or constrict), enhances immunity, and reduces inflammation. Of course, the heat from FIR is well known for relieving pain by relaxing the tissues.

For good reason, far infrared heaters are very popular in modern saunas. **Sauna Therapy** later in this chapter discusses FIR heaters in more detail. But for now, let's examine the effects of light on the body.

The Pineal Gland and Light

The human body's most obvious receptor to visible light is the eye. But two glands inside the skull are also affected: the pituitary and pineal. Until the last few decades, not too much was known about the pineal, a tiny pine cone-shaped structure deep inside the brain between the two cerebral hemispheres. Although the medical establishment recognized that the pineal secretes hormones involving growth (and possibly also skin pigmentation and sexual stimulation), it considered the gland inconsequential, and not worth further investigation.

In the third edition of the *Textbook of Medical Physiology*, Arthur C. Guyton writes: “Embryologically, the pineal gland [in the human being] is derived from a third eye that begins to develop early in the embryo.”²⁴⁸ This “third eye” is *literal*. Prominent in the first weeks of gestation, it appears in the center of the forehead just at the surface of the skin before it gradually recedes into the brain, leaving no discernable sign that it was ever there. In the tenth edition of the same textbook, Guyton writes, with co-author John E. Hall: “It is known from comparative anatomy that the pineal gland is a vestigial remnant of what was a third eye located high in the back of the head in some lower animals.”²⁴⁹

The dictionary defines *vestige* as “a bodily part or organ that is small and degenerate or imperfectly developed in comparison to one more fully developed in an earlier stage of the individual.”²⁵⁰ However, the ways in which messages are transmitted to, and translated by, the pineal can be subtle and complex. The “vestigial remnants” of the pineal on the skulls of birds are not only photoreceptor cells, but they also monitor magnetic fields, thus helping the birds to align their bodies in space for navigational purposes. In all mammals the pineal is directly responsible for normal mating behavior, ensuring that most of them become pregnant during the winter to allow for a spring birth when the young can be kept comfortably warm and well fed. In birds and lizards, the pineal absorbs light without relying on the eyes to feed it. A lizard's pineal manifests as a visible bump on the skull, and plays a role in the regulation of seasonal reproductive cycles. As for hamsters, Guyton and Hall report, the gland is so sensitive that “greater than 13 hours of darkness each day activates the pineal gland, whereas less than that amount of darkness fails to activate it, with a critical balance between activation and nonactivation.” The pineal in humans is “controlled by the amount of light . . . seen by the eyes each day.”²⁵¹

Although the pineal is stimulated differently in humans than it is in birds and lizards, the human gland plays an equally important role in development. All of these

functions are quite sophisticated for a “vestigial” structure! No wonder the French philosopher Descartes believed that the pineal was the seat of the soul. Similarly, Eastern philosophies refer to the center of the forehead, just above the eyes, as the psychic and spiritual center, otherwise known as the “third eye.” Nevertheless, conventional medicine does not fully grasp the role of the pineal in human functioning.

In humans, light travels through the eyes, along the optic nerve to the part of the brain that records visual impulses, and ultimately to the pineal, which converts it into hormonal transmissions inside the body. The pineal gland secretes several hormones, including dopamine, serotonin, and melatonin. Melatonin is the hormone that induces drowsiness. The levels, which increase at sundown, are plentiful during sleep—especially between 2:00 and 3:00 in the morning, when the hormone is secreted at ten times the amount of its lowest level. By morning the levels diminish, and they become even lower during bright daylight hours.

The ebb and flow of melatonin forms the foundation of our biological time clock. Besides regulating our sleep cycles, the hormone regulates metabolism, the menstrual cycle, and the size and function of the thyroid and adrenal glands. Melatonin also helps alleviate depression, decreases pain, maintains brain acuity, encourages immune response, and even slows the aging process. Newer research shows that melatonin not only scavenges free radicals, but it also inhibits the growth of many types of cancers, including breast and lung cancers, renal cell and hepatocellular carcinomas, and brain metastases from solid tumors. Melatonin also appears to lower LDL cholesterol levels. Some researchers suspect that unusually low melatonin levels are a factor in Multiple Sclerosis, coronary heart disease, epilepsy, and postmenopausal osteoporosis. These reports, while preliminary, further suggest the range of melatonin’s potential. The variety and scope of functions does not seem unusual, considering the pineal gland’s role as the receiver and transformer of light.

Light Therapy for SAD

It has long been observed that mammals set their biological clocks according to how much light the sun emits. In the Northern Hemisphere, the sun appears the least during the winter. In the Southern Hemisphere, the sun appears the least during the summer (the equivalent of a Northern winter). The farther away from the equator the land is, the less sunshine one receives. In parts of the world where the

seasons discernibly change and the sun is present for the fewest hours, all life undergoes a major biological shift. In animals, the metabolism automatically decreases. This causes the body to store fat and induces the animal to sleep or nap, in a period of complete or partial hibernation, until the Earth thaws and green plants grow again.

This evolutionary pattern makes sense for an animal when food is scarce and the animal needs to keep itself warm in a secure shelter. But the same adaptive mechanism in humans conflicts with our modern lifestyle. Most people hold jobs and have other responsibilities that do not allow them to slow down for introspection, spiritual renewal, or simple quiet time. Nonetheless, they suffer from a slower metabolism as though they were going into hibernation. Many people who overeat carbohydrates not only gain weight, but they also become irritable and fatigued. They sleep excessively, engage in less sex, and even suffer from lowered immunity.

As you might guess, it’s more than the cold that affects us adversely. So does the lack of adequate sun. This condition of light deprivation is called *seasonal affective disorder*, also known as SAD (not to be confused with the same acronym that stands for *standard american diet*). The acronym SAD is indeed appropriate because many people experience sadness—if not outright depression—due to the lack of adequate sunlight.

We can expect SAD to be practically non-existent in warm locations closer to the equator. However, SAD is common in the Scandinavian countries, Greenland, Northern Canada, and Alaska. The Earth’s tilt, together with its elliptical orbit around the sun, makes it receive the sun’s rays at an angle. This results in 24 hour periods of light during the peak of the summer, and 24 hour periods of darkness during the peak of the winter. (Hence, any of these countries are sometimes called “the land of the midnight sun.”) With such lengthy, unrelenting periods of darkness in these locations, there is a higher than normal incidence of depression and suicide.

It is the increase in melatonin production, due to fewer daylight hours, that’s responsible for SAD. This light-dependent hormone, so essential at night for its soporific effects, causes depression when too much is secreted at other times. (Therefore, if you use it to help you sleep, take just enough before bedtime. Usually, half a mg is plenty for most people. Melatonin supplements often contain more, so take only a little bit from the capsule.) SAD is such a worldwide phenomenon that the 1988 book, *The Hibernation Response*, is appropriately subtitled *Why You Feel Fat, Miserable, and Depressed from October through*

I think you might
dispense with half your
doctors if you would only
consult Dr. Sun more.

—Henry Ward Beecher
American clergyman,
social reformer, and
anti-slavery activist
(1813–1887)

March—and How You Can Cheer Up Through Those Dark Days of Winter. (This book was obviously written for a North American audience living a fair distance north of the equator.) The entire book is devoted to strategies to counteract our genetic tendency to become sluggish, fat, and depressed during the hibernation periods. The primary treatment? Exposure to bright full-spectrum light, one-half to four hours every day, depending on the climate, the individual, and the severity of the condition. A similar program is recommended to help regulate a woman's menstrual cycle. Exposure to light at certain intervals can correct menstrual cycles that are too short or too long.

We harm ourselves by substituting artificial light for natural sunlight. Liberman writes:

Until 1879, when Edison perfected the light bulb, people spent most of their time outdoors and received adequate daily doses of natural, full-spectrum sunlight. Although Edison's invention was a quantum leap in technology, it simultaneously created a situation in which people lost respect for nature's daily light/dark cycle and began "burning the candle at both ends." With the growing availability of the light bulb, life became largely an "indoor event," which drastically reduced the amount of time to which people exposed themselves to full-spectrum light. . . . Artificial lighting and its effects on physiology and behavior obviously needs to be evaluated. By spending an inordinate amount of time under artificial lights, we may be subjecting ourselves to *malillumination*, in much the same way as we subject ourselves to malnutrition by eating an unbalanced diet.²⁵²

Liberman acquired the term "malillumination" from John Ott, one of his teachers (and the originator of time-lapse photography). Ott had some wonderful insights into how electromagnetic frequencies are used by the body. All nutritional substances and drugs, he wrote, have a specific wavelength at which they are absorbed. If those wavelengths are missing in the light source to which a person is exposed, "then no biological combustion will take place and the nutritional benefits of the particular substance will not be utilized."²⁵³ Liberman continues:

The European Society for the Study of Drug Toxicity has reported that the lethal dose rate for

most drugs is higher when administered during the daytime than during the night. We also know that light received through the eyes stimulates the pineal and pituitary glands. These glands control the endocrine system that regulates the production and release of hormones controlling body chemistry. This would then seem to me to be a carryover of the basic principles of photosynthesis in plants—sometimes referred to as a conversion of light energy into chemical energy—to animal life, a phenomenon not heretofore recognized. Thus the wavelengths

that are missing in various types of artificial light or that are filtered from the spectrum of natural light by window glass, windshields, eyeglasses (particularly tinted contact lenses or deeper shades of sunglasses), smog, and even suntan lotions, are causing a condition of malillumination, similar to the malnutrition that occurs when there is a lack of a proper nutritional diet.

Those minerals and chemicals in the individual cells of our bodies that would normally be metabolized by the wavelengths

that are missing remain in the equivalent of darkness, even though other wavelengths are present. The end result is an incomplete metabolic or biological combustion process.²⁵⁴

Ott spent years conducting research using *full spectrum* lighting, which contains all wavelengths (colors) emitted by the sun. Incandescent bulbs contain more of the yellow and red colors emitted by the sun. However, most fluorescent lights are too bluish. Compact fluorescent light bulbs, pushed onto a public fearful of global warming, aren't full spectrum either. (They are also extremely dangerous, as they contain mercury and do emit fumes when heated. Should they break, the mercury vapors released into the air cause serious neurological damage.) Ott found that mice and rabbits living under pinkish or bluish lights, compared to their full-spectrum-raised counterparts, developed much higher rates of cancer. School children exposed to normal blue-white fluorescent bulbs exhibited considerably more behavioral, emotional, and learning problems than when the classrooms were installed with full spectrum fluorescent lights (which were also specially shielded against unwanted X-rays that are normally emitted from the ends of the tubes). The students' aggression levels decreased and they became

NASA Light-Emitting Diode Technology Brings Relief In Clinical Trials

"We've already seen how using LEDs can improve a bone-marrow transplant patient's quality of life," said Dr. Harry Whelan, professor of neurology, pediatrics and hyperbaric medicine at the Medical College of Wisconsin.

—NASA Press Release 03-366
November 13, 2003

Until recently, it was believed that humans utilize exclusively glucose for energy, and that chlorophyll-rich green plants are the only organisms capable of converting sunlight into energy (a process called *photosynthesis*). We now know that the fuel-burning mitochondria in all tissue cells of humans are also capable of capturing and transforming sunlight into energy (ATP, or adenosine-59-triphosphate)—providing enough chlorophyll has been ingested. (Chlorophyll also reduces oxidative stress, which slows aging.)

Melanin may also help humans directly “harvest” sunshine. Known for coloring our skin, hair and eyes, melanin is abundant in the brain. Not only does it scavenge free radicals, but, sensitive to light, it acts as a semiconductor and has the ability to transfer charge.

Significantly, the sun’s radiant energy structures water (including the water in our bodies) into a liquid crystal, similar to what occurs in the first step of photosynthesis.

relevant literature:

C. Xu et al., “Light-harvesting chlorophyll pigments enable mammalian mitochondria to capture photonic energy and produce ATP,” *Journal of Cell Science*, January 2014

A. Solis-Herrera, “Beyond mitochondria, what would be the energy source of the cell?,” *Central Nervous System Agents in Medicinal Chemistry*, March 2015

G. Goodman et al., “Melanin directly converts light for vertebrate metabolic use: Heuristic thoughts on birds, Icarus and dark human skin.” *Medical Hypotheses*, August 2008

Gerald H. Pollack, *The Fourth Phase of Water: Beyond Solid, Liquid, and Vapor* (2013)

more peaceful and cooperative. Their blood pressure dropped an average of twenty points when they were beneath the full spectrum lights. Interestingly, even the behavior and attitudes of blind students improved—a testimony to the nourishing aspects of visible EM wavelengths that don’t rely on our ability to see them.

The sun provides all wavelengths. Most indoor lighting does not. Spending too much time indoors skews our biochemical reactions by depriving us of essential EM wavelengths. Ott cited many studies involving laboratory rats, bean seeds, plants, children, and adults. When exposed to X-rays, fluorescent lights and unshielded TVs and computer monitors (this was before flat screens), plants grew crooked. Children and animals became hyperactive, aggressive, irritable, and lethargic. Adults had physical problems including eyestrain, nausea, headaches, and backaches. The repercussions of malillumination are so extensive that some livestock raisers, whose animals remain indoors too much, install plastic windows that allow UV radiation into the barns and henhouses.

We need natural light in order to remain healthy. If you can’t lie naked in the sun, use full spectrum lighting. Repeated exposure to sunshine, the original healer:

- ◆ Destroys pathogenic microorganisms.
- ◆ Stabilizes blood sugar (diabetes and hypoglycemia).
- ◆ Reduces excess harmful cholesterol in the bloodstream.
- ◆ Reduces pain, in part by lessening harmful lactic acid buildup in the muscles.
- ◆ Slows, deepens, and eases breathing.
- ◆ Decreases the resting heart rate.
- ◆ Helps the lungs absorb more oxygen.
- ◆ Helps the muscles better utilize the oxygen that’s already in the body.
- ◆ Helps the body burn fat, even if an individual isn’t active, by stimulating the body to produce Vitamin D.
- ◆ Increases blood supply to the deep internal organs as well as muscles, due to the stimulating effect on the sympathetic nervous system.
- ◆ Normalizes hormonal levels in the body, which cause beneficial changes ranging from more rapid wound healing to stress reduction.

Why isn’t the public taught about light?

Single-Color Light Therapy

Sometimes an organism lacks not just sunlight (which contains a wide range of electromagnetic wavelengths), but a *particular* EM wavelength in the *visible light* range—which we perceive as a color. Ott once remarked that organisms respond to specific, narrow bands of particular wavelengths of visible light, “not just to the difference between light and dark”²⁵⁵—and that when specific wavelengths are missing from an artificial light source, “the biological receptor responds as if it were in total darkness, even though other wavelengths are present.”²⁵⁶ This points to the biological need for all colors.

We know, based on chloroplast response in plants, that green growing things require specific wavelengths. *Chloroplasts* are plant cells that are arranged in certain patterns and contain chlorophyll. Depending on the color of light shone on a plant, the chloroplasts will assume either orderly or chaotic designs. Corresponding cellular activity occurs in animals. In 1966, looking through a phase-contrast microscope, Dr. Ott saw that the biological responses of live rabbit eye pigment cells changed, depending on the color filter he was using. “If a particular ailment can be treated with certain wavelengths of light,” Ott remarked, “we might logically assume that living under an artificial light

source that lacks these wavelengths can contribute to causing the ailment in the first place.”²⁵⁷

Ott’s conclusion makes sense, considering that humans evolved while becoming acclimated to all of the electromagnetic wavelengths emitted by the sun—each of which has specific properties. Acupuncturist Anna Cocilovo and physician Ron Rosen write:

Colored light has a particular ability to balance the autonomic nervous system, which is crucial in most chronic and functional disorders as it regulates all of the automatic processes of the human body: breathing, the beating of the heart, the functioning of the digestive tract, the stress response. Light as an environmental stimulant, is second only to food in its impact on controlling bodily functions. Interestingly, light through the eyes reaches not only to the visual centers of the brain, but also the hypothalamus. The hypothalamus is the brain’s brain. It . . . houses the body’s biological clock, . . . organizes information from our external and internal environments, initiates the stress response, regulates immune function, reproduction, thirst, hunger, temperature, emotions, and sleep patterns.²⁵⁸

Different colors produce different effects. For example, red light is stimulating. It increases muscular strength, eliciting 5.8% more electrical activity in the arm muscles compared to other colors. In contrast, pink light calms both the muscles and the nerves, inducing effects that are not only psychological but physical, too. Liberman reports that in inmates placed in small holding cells painted bubble-gum pink, “a reduction of muscle strength happened . . . within 2.7 seconds. [This particular shade of pink] has been proven to calm the most jangled nerves within minutes. Where brute force or sedative drugs were once the only treatment option, . . . pink holding cells are now used to significantly reduce the incidence of violent and aggressive behavior.”²⁵⁹ It’s reasonable to suppose that violent individuals, for whatever reason, might suffer from a deficit of that particular wavelength of electromagnetic radiation, which is visually perceived as pink light.

Blue light is so famous for its therapeutic effects that it has been used by the mainstream medical community for half a century to treat babies born with jaundice. The distinctive yellow skin color of jaundice—a condition found in over 60% of prematurely born infants—is caused by bilirubin. *Bilirubin* is a yellowish chemical from the liver that accumulates in the tissues when the body cannot break it down. Unless given blood transfusions, these babies have always been prone to brain damage and even

death. However, in 1956 a nurse named Sister Ward at Rochford General Hospital in England accidentally discovered, and then popularized, the use of light to heal this disorder. Not wanting to leave the babies in the stuffy incubators all day, she wheeled them into the sunlight for some fresh air. When new diapers were placed on the infants, the hospital staff noticed that the skin was bright yellow underneath the cloth, but the rest of the skin was a much paler yellow. It was subsequently learned that bilirubin levels dropped dramatically in test tube samples that were exposed to sunlight.

Apparently, as Ott later wrote, the blue colored electromagnetic wavelengths pass through the tissues of the body, interact with the bilirubin, and transform it into a harmless substance that the body can easily excrete. This has led to the routine practice of placing jaundiced infants beneath bright blue, 450-nanometer-wavelength lights. The blue lights are somewhat less efficient than pure sunlight, but they can be used indoors all year long. Liberman comments:

Some medical researchers think neonatal jaundice is caused by immaturity of the infants’ organs. For example, the liver may not be developed enough to remove toxins from the body. Others think the jaundice is artificially created by a lack of sunlight in modern, windowless nurseries. *Since the liver’s ability to detoxify the body differs under various lighting conditions*, it is questionable whether neonatal jaundice is truly caused by an immature liver or whether it is the direct result of a premature infant’s sensitivity to sunlight deprivation. [emphasis added]²⁶⁰

Ironically, the use of blue light for bilirubin babies in lieu of simple sunshine may be partly due to the modern appetite for more complicated and high-tech solutions! Still, the need for blue light illustrates the vital role of the visible EM band on our physical, mental and emotional health.

Now that we have learned how light is a nutrient, it’s easy to understand that the bright red, orange and yellow of a sunrise heralding the energy of a new day, and the blue, indigo and violet appearing at night as we prepare for sleep, are more than just pretty poetic metaphors. Visible colored light appears in nature at specific times for a reason. You might regard a color as a visible corollary of the particular wavelength’s *function*.

The most effective color therapy developed to date is Dinshah’s Spectro-Chrome system (next). This therapy is so beneficial, versatile, conveniently low-tech, and inexpensive, that I want to share it with you in depth.

Dinshah's Spectro-Chrome Color Therapy

Therapy with colored light has been used for centuries. Although our predecessors may not have known exactly *why* the therapy worked, they knew that it *did* work. In his 1878 book, *The Principles of Light and Color*, American physician Edwin Babbitt described his system of applying colored light to the body, and using sunlight to charge water in colored glass bottles from which his clients drank. The book also related many case studies of people who could not be helped by conventional medicine, but whose health was restored by color therapy. Babbitt explained that the warm colors (red, orange and yellow) were stimulating and arousing, and could therefore treat conditions of depletion such as paralysis and exhaustion. The cool colors (blues and violets) were soothing and sedating, and could therefore treat conditions of inflammation such as meningitis, sunstroke, and burns.

Color therapy became much more prominent after Dinshah P. Ghadiali (1873–1966), a man of Persian descent who was born in India, came to the United States as an adult. In many ways, Dinshah's genius and history paralleled those of Royal Rife. By age 11, Dinshah (as he would later be called) was assistant to the Professor of Mathematics and Science at Wilson College in Bombay, India. He spoke over 20 languages competently, gave demonstrations in physics and chemistry, became an electrical engineer and mechanical engineer by trade, and eventually earned MD and PhD degrees. In 1896 Dinshah visited the United States, where he lectured on X-rays and radioactivity and met (among other scientists) Nikola Tesla and Thomas Alva Edison. Because of his genius, *The New York Times* referred to him as “the Parsee Edison.”²⁶¹ In 1911, after Dinshah married, he came to live in the United States. At least five of his inventions were patented, including an automobile internal combustion engine fault finder, a color wave projector, and an electric thermometer.

Drawing from Babbitt's writings, his own experiences as a medical practitioner in India, and spectroscopic discoveries by numerous scientists, by 1920 Dinshah refined a sophisticated system of color therapy he called *Spectro-Chrome*. The therapy consisted of specially hued glass placed in the front of an enclosed box, behind which an incandescent bulb shone. The light was directed onto areas of bare skin that needed treatment. Different colored glass filters were used for different health issues. The colors spanned the entire rainbow: Spectro-Chrome was the first

color healing modality that utilized red, orange, yellow, yellow-green, green, turquoise, blue, indigo, violet, magenta, and scarlet wavelengths. Dinshah explained that when a person is deficient in a given color, illness relating to the deficiency develops—and by restoring that color to the person's energy field, the illness is eliminated. The website of the Dinshah Health Society states:

How can colored light possibly cause a physiologic effect inside a human (or animal) body? . . . Each individual cell in a living organism has a specific function to perform. In so doing, it generates and radiates a specific energy; the cellular energy totality is often termed the “aura.” The liver radiates the equivalent frequency (harmonic) of red light, the pituitary radiates green, the spleen violet, circulatory system is magenta, lymphatic system is yellow, and so on. The logic behind color therapy is this: when

**There are
two kinds of light:
the glow that illumines,
and the glare that obscures.**

—Plato
Greek philosopher,
mathematician, and writer
on the themes of love, knowledge,
rhetoric, and geometry
(about 428–348 BCE)

a particular organ or system is underactive, its auric energy decreases . . . [That's why] the appropriate activating color is projected on the affected area (sometimes the entire body). If overactivity is present, such as in excessive fever, the obvious remedy is an opposite (depressant) color. Further, by energizing the natural reparative powers present within us, rather than relying on drugs with their attendant often-dangerous side effects, resistant bacteria are not encouraged.²⁶²

Given that different forms of EM radiation affect us, it's natural that we would respond to visible light as well. (See Appendix C, “Healing with Electromedicine and Sound Therapies,” for more details.) However, unlike some wavelengths that have negative effects, *colors are nutrients*. This “food made of light” corresponds to *minerals*. By using spectrometry (which measures the various wavelengths emitted by elements), Dinshah could verify that certain minerals emitted the same wavelengths of light (colors) that were needed to treat different conditions.

Spectro-Chrome therapy was becoming more widely used by both medical professionals and the lay public when Morris Fishbein, head of the American Medical Association, initiated what would become years of legal proceedings against Dinshah. He attacked Dinshah with the same venom he'd directed against Royal Rife, Royal Lee, and other holistic pioneers. At one of Dinshah's trials, several distinguished medical doctors testified that they had successfully used Spectro-Chrome to treat cancers,

cardiovascular diseases, eye diseases (acute infections, cataracts, glaucoma and hemorrhaging), middle ear infection, diabetes, goiters, nervous system disorders (meningitis, polio and sciatica), gastrointestinal disorders (including hemorrhoids and ulcers), muscular and joint problems (arthritis, lumbago, rheumatism), reproductive conditions (such as gonorrhea and syphilis), respiratory diseases (including asthma, bronchitis, laryngitis, pleurisy, tonsillitis and tuberculosis), skin problems (boils and rashes), and an assortment of conditions one might not think color therapy could help (such as appendicitis, drug addiction and radiation burns). After being used for a strangulated hernia in one case, Spectro-Chrome eliminated the need for surgery.

One of Dinshah's most distinguished supporters was Kate W. Baldwin, MD, Senior Surgeon of the Woman's Hospital of Philadelphia. From the 1920s well into the 1940s, Dr. Baldwin used Spectro-Chrome in the hospital. One widely publicized case was of a severely burned child, whom the staff was unable to help and considered incurable (terminal). Baldwin achieved such spectacular success using Spectro-Chrome alone, that the hospital board later granted her request for more cubicles to administer the therapy. Baldwin wrote:

After nearly 37 years of active hospital and private practice in medicine and surgery, I can produce quicker and more accurate results with colors than with any or all other methods combined—

and with less strain on the patient. In many cases, the functions have been restored after the classical remedies have failed. Of course, surgery is necessary in some cases, but the results will be quicker and better if color is used before and after operation. Sprains, bruises and traumata of all sorts respond to color as to no other treatment. Septic conditions yield, regardless of the specific organism. Cardiac lesions, asthma, hay fever, pneumonia, inflammatory conditions of the eyes, corneal ulcers, glaucoma, and cataracts are relieved by the treatment.

In some unusual and extreme cases that had not responded to other treatment, normal functioning has been restored by color therapy. At present, therefore, I do not feel justified in refusing any case without a trial. Even in cases where death is inevitable, much comfort may be secured.

There is no question that light and color are important therapeutic media, and that their adoption will be of advantage to both the profession and the people. . . . There is practically no hospital that I know of, that is not using light, plain light or some colored lights, in some way; and there are [a] great many of our physicians, who are using color and light in their private work. . . . I would close my office tonight never to reopen, if I could not use Spectro-Chrome.²⁶³

The Best Light Source for Spectro-Chrome Color Therapy

For a light source that shines through the color gels, Dinshah specified that all wavelengths of visible light must be present. Otherwise, there appear what he called "irregular peaks"—decreased or missing wavelengths—which weaken the effects of the color transparencies. The best source is, of course, the sun. For indoor lighting, standard household incandescent bulbs (the type invented by Thomas Edison) are the best, whether 4 or 400 watts. Even though incandescent bulbs are weighted toward the red end of the spectrum, they're still similar enough to sunlight (with no emission gaps or peaks) to work well. Light shining through windows or skylights is fine if the glass allows all wavelengths through.

Fluorescent lights and so-called "full spectrum" neodymium bulbs are not recommended because according to spectroscopic analysis, they cause distortions in the resulting frequencies (colors). Compact fluorescent lights (CFLs) are inappropriate for the same reason. Also, CFLs are dangerous. In a CFL, a spark jumps from one electrode in a tube to another electrode, causing the gas inside the tube to light up. The spark generates lots of UV and too little visible light. To remedy this, the inside of the tube is coated with phosphor, which converts the UV emanations into the visible range. But the UV that escapes through tiny cracks in the phosphor coating damages skin cells. Also, the gas inside the tube is mercury, which is highly poisonous in even tiny amounts. What happens if the bulb breaks? Even if the bulb remains intact, it's not wise to use a bulb that may leak mercury. As for LEDs (dichroic reflector bulbs), the Dinshah Health Society recommends waiting until they're better made to emit all peaks of visible light.

In the United States, most incandescent bulbs are unfortunately no longer being made and it will soon be difficult to obtain them. However, some incandescent bulbs will still be available: rough- or vibration-service bulbs, appliance bulbs, some reflector bulbs, showcase (tubular) bulbs, and 3-way bulbs. The Dinshah Health Society also suggests a "specialty" bulb such as the Philips 25-watt halogen (which is equal to a 40-watt incandescent bulb). Lighting technology keeps evolving, so make sure that your source conforms to the Spectro-Chrome recommendations.

It's important to use the exact wavelengths (colors) that Dinshah used. His glass plates are no longer manufactured, but Darius Dinshah—one of Dinshah's sons who founded the Dinshah Health Society—recommends an acceptable substitute: transparent plastic sheets designed for theatrical lighting that emit the same color wavelengths as the old glass plates. A few lighting design companies in the US sell the "Dinshah colors," having been told by Darius what to offer. Darius's book, *Let There Be Light*, summarizes Spectro-Chrome's history and advises where to apply what color for hundreds of conditions, as well as where to obtain the color transparencies. (Spectro-Chrome contact information is in Appendix A.)

In addition to shining a light through the color filters onto bare skin, users can wrap the colors around clear glass water bottles to transfer the wavelengths into water, drunk promptly. Drinking the treated water can be more effective at the onset of a condition. And the effects of both drinking the water and applying the color externally are exponentially more powerful than the effects of either method used separately. Colored light can also be shone into a bathtub in a dark room—a good option to use if the condition requires color on both the front and back of the body. Water is easily imprinted, so the color is imparted to both sides of the body simultaneously.

In many cases, people achieve the best results when administering the therapy according to the "Variant Breath Forecast Time," based on the body's natural cyclic breathing rhythms. At different times of the day and night, more air passes through one nostril than the other, until a point is reached when both nostrils draw in the same amount of air. This cycle repeats and changes every several days. "The intent," advises Darius in a newsletter, "is to begin tonating [applying color] at a time when one nostril is at minimum pressure and continue until the nostrils are at an even pressure . . . about 44 minutes later. . . . There is another junction almost an hour and a half later as the gaining pressure nostril reaches maximum and reverses. When you cannot use a Forecast recommendation, try adding the 1½ hours to a Forecast time so you tonate through the reverse junction."²⁶⁴ The Dinshah Health Society computes the VBFT according to one's location, and for a modest membership fee, sends a year's worth to its subscribers. Finally, a new experimental way of tonating was recently suggested: during sleep, when the room is dark. It was hypothesized that simply taking in light through the head might be as effective.

Spectro-Chrome is non-invasive, inexpensive, and simple to administer. It's also low tech, as it doesn't necessarily require electricity (unless you use the therapy in the dark). During the day, all you have to do is go outside or be in a room that receives a little bit of sun.

Place the transparent color sheets on the bare skin, and the sun does all the work while you simply lie down or sit.

Not all artificial lighting will work for this therapy. You can use some types of electric bulbs but not others. See Sidebar on page 441, "The Best Light Source for Spectro-Chrome Color Therapy," for details.

Animals also benefit from this therapy. A Dinshah Health Society newsletter reported that about 1,400 day- and week-old ducklings in a pen had a yellow-green light shining on them. "It had to be turned off to prevent physical injury because they climbed over one another, even five deep, to get near the lemon color."²⁶⁵

My own success with Spectro-Chrome therapy has been profound. Over the course of two decades, I restored nerve function to a numb, burning and tingling knee, eliminated three cysts, helped speed the reduction of cataracts, and reduced swelling after dental surgery.

For about one hundred dollars, you can obtain all the materials you need to help yourself heal from a wide range of ailments. Spectro-Chrome is so simple and low-tech that many people don't want to try it. They think that if you don't plug it in and it's very inexpensive, it can't possibly work. But they're wrong! It's sophisticated in principle—and most important, it *does* work. Don't let the apparent simplicity of this method fool you.

Let There Be Light

The visible light wavelengths on the electromagnetic spectrum have profoundly beneficial effects on living organisms. The physiological, biochemical, and psychological effects cannot be separated.

"The research papers don't seem to address the fact that humans evolved under natural sunlight," Liberman reminds us. "Are we supposed to dismiss five million years of evolution because science doesn't understand the supreme wisdom of nature?"²⁶⁶ As Bernarr MacFadden wrote presciently, back in 1937:

For innumerable years the world has not required science to give it sunlight. . . . Life on the planet has survived because it received enough of these rays to maintain life and health. What is needed now from science is not so much help in the application of the rays as help in removing the conditions that prevent them from reaching us.²⁶⁷

People ignored the benefits of sunshine—even becoming afraid of it—during the late 1930s. This was the beginning of the widespread manufacture and use of pharmaceutical antibiotics. Coincidence? Hardly!

If you use the sun for therapeutic purposes, make sure you are properly nourished, inside and out.

HOMEOPATHY

A Brief History of Homeopathy

Homeopathy, a form of healing even more subtle than acupuncture, belongs to the quantum world of resonance therapy. Even though it usually requires the ingestion of animal, vegetable or mineral substances, homeopathy—as with light and color therapy—utilizes frequencies. Like both visible light and invisible wavelengths of the electromagnetic spectrum, homeopathy has profound effects on living organisms.

Homeopathy began in Germany in the 1790s because medical doctor Samuel Hahnemann couldn't wait to quit his boring, tedious job of translating German medical documents into English. A local outbreak of malaria soon granted him his wish: He stopped translating to search for a cure. Accounts describing his early research conflict somewhat, but we do know that he first experimented with chinchona bark. Already widely in use for two centuries as an anti-malaria treatment, chinchona bark contains quinine, which reduces fever, and has analgesic and anti-inflammatory properties. Hahnemann discovered that healthy volunteers (including himself) who took the bark developed symptoms that were virtually identical to those of malaria. Noting the similarities between the formula and the disease that the formula was used to treat, Hahnemann began his experiments that eventually developed into the art and science of homeopathy.

As Hahnemann further experimented with various substances, he decided to use lesser amounts because he didn't want his research subjects to become overwhelmed by the effects of—or suffer permanent injuries from—the high amounts of the ingredients he was using. This led to the systematic methodology of homeopathic dosing. He dropped a tiny bit of powdered herb into a bottle of plain water and shook it. Then he put a single drop from the first bottle into a second bottle of plain water and shook the new bottle. Then he put a single drop from the second bottle into a third bottle of plain water and shook *that* bottle. He repeated this cycle until only the energetic signature of the material, but no physical molecules, remained in the water.

To Hahnemann's great surprise, the strength of the fluid he created did not diminish. It became stronger! He concluded that the shaking of the containers, known as *succussing*, liberated the life force of the ingredients. (Water is an ideal medium for being imprinted. Its ability to “remember” what has been dissolved into it

was illustrated by Japanese author Masaru Emoto. His book, *The Memory of Water*, contains photos of water that has been frozen after being exposed to various words on pieces of paper. When frozen, water imprinted with words like “hate” and “sorrow” forms ugly asymmetrical splotches, whereas water imprinted with words like “love” and “thanks” forms lovely symmetrical crystals. Similarly, polluted water produces ugly asymmetrical splotches, whereas pure uncontaminated water forms lovely symmetrical crystals.) Hahnemann discovered that a homeopathic preparation worked even better to cure a

disease than the more molecularly gross substance from which it was derived.

Encouraged, the doctor experimented with a wide variety of ingredients, both commonplace and exotic. Just a few examples were the ink of a squid, mare's milk, the mineral calcium carbonate, chamomile flowers, and rattlesnake venom. Hahnemann fed *dilute* substances to healthy volunteers to see what reactions could be induced. A remedy's

effects were called *provings*. He carefully recorded the physical, emotional, mental and even spiritual responses of the volunteers—the proving of the remedy—and then he matched their symptom pictures to an existing illness. After intensive cataloguing, Hahnemann amassed a repertoire of safe, effective remedies. The right homeopathic cure always induced a symptom picture similar to the illness for which it was being taken. (One example is *Allium cepa*, or red onion. Someone with a head cold—with symptoms of sneezing, runny nose and tearing eyes—would take homeopathic red onion because it causes those very same reactions in a healthy person.) Hence, the word “homeopathy” for this modality: it comes from the Greek word *homoios*, which means “similar.” Hahnemann explained that the remedy restored one's vital force, according to the principle of “like cures like.”

The doctor's 1806 essay, *The Medicine of Experience*, presented some fundamental principles of homeopathy:

- ◆ The effects of a given remedy can be known only by experimenting on healthy volunteers and not sick people. Otherwise, the symptoms of the disease might be mistaken for the effects of the remedy.
- ◆ The choice of remedy is based on the similarity of its effects to the symptoms of a sick person, not on what the practitioner believes is the cause of the disease.
- ◆ Remedies are given in small amounts and low doses to prevent unwanted symptoms, which are known as “aggravations.”

Life depends on
signals exchanged
among molecules.

—Nikola Tesla
Croatian-American physicist,
electrical and mechanical
engineer, inventor,
and designer of AC current
(1856–1943)

- ◆ Remedies are given in single doses rather than in complex mixtures of different doses. Also, two different remedies are never administered at one time.
- ◆ Remedies should be repeated only if there is a recurrence of symptoms.

Hahnemann's first edition of what eventually became *Organon of Medicine* was published in 1810, and the final sixth edition was released in 1821. The doctor continued practicing medicine and teaching at universities for the rest of his life. He also published six volumes of the *Materia Medica*, quaintly written accounts of all the provings of remedies discovered through experiments with volunteers. Today there are many books based on the *Materia Medica*, updated and with modern language.

Potencies (Dosages)

Since Hahnemann's time, the potencies of all homeopathic remedies have been standardized and made in an equivalent way. A minute quantity of the liquid or pulverized powder is put into a closed container of water and shaken. This diluting and shaking, in subsequent containers, continues until the desired dose is reached. The higher the number of dilutions, the stronger the dose.

The potency scale in homeopathy uses Roman numerals. With a dose of 12C (diluting by many factors of 10), there are essentially no physical molecules present in the solution. I say "essentially" because a 12C dilution might be regarded as the equivalent of having one molecule of substance present in a sphere of water with a diameter about the distance between the Earth and the sun. While 12C may contain one molecule of the original substance (and is the highest potency to do so), the amount of physical material in the fluid is still minuscule, too small an amount to effect the same type of change that a gross, measurable quantity of the same ingredient would induce. Notably, if the water that carries the homeopathic remedy message is transferred later to a solid carrier such as milk sugar, the resonance or vibrational signature remains. (I will begin discussing resonance in the next column.)

Dilutions in the "X" range (1X, 2X, 6X and 12X) are acknowledged to contain some physical remnants of the original material; but the effects are gentle. "X" formulas generally contain beneficial ingredients that the person needs, such as minerals (in the form of cell salts, page 446) and glandular substances (often given to treat allergies).

Homeopathy is the safest and most reliable approach to ailments, and has withstood the assaults of established medical practice for over 100 years.

—Yehudi Menuhin
famous violinist and conductor
(1916–1999)

In many cases, the body is even more receptive to these mild dilutions than to the gross chemical formulas. In Hahnemann's paradigm, dilutions in the aforementioned "X" range or in the "C" range (6C, 9C, 12C and 30C) primarily address physical issues, although at 30C a remedy begins to catalyze some emotional and mental responses as well. Dilutions in the very high ranges, such as 200C, 1M, 5M, and higher (although it's rare to use a remedy higher than 5M), strongly affect one's emotional and mental states. Some countries don't use Roman numerals for "X" or "C" doses, but they are implied.

It can take years of training in the art of repertorizing to match the correct remedy to the person. This is especially true of the lesser known and little-used remedies.

How Homeopathy Works

The Classical Explanation

Homeopathy has two basic principles. First is the "law of similars," or notion that "like cures like." A substance that causes symptoms of illness in a healthy person will relieve those same symptoms in a sick person when given in minuscule amounts. Put another way, a remedy resonates to the oscillations that the subject is emitting in his or her unhealed state. The second principle, the "law of infinitesimals," states that the more a homeopathic solution is diluted, the more powerful it becomes.

Homeopathy clearly works; its success is not due to a so-called placebo effect. We know this because when various remedies are given to sick animals—or even sprayed on plants riddled with disease and insects—most of the time, the animals and plants become well. Nevertheless, the general public doesn't really understand how homeopathy works.

Some practitioners think they know why homeopathy works, but they have different reasons to explain its success. Therefore, I will briefly cover several theories. The first theory I'll share is more of a theory of "how" homeopathy works, rather than an explanation of "why." But knowing "how" can be helpful. And because the "how" is so often what many teachers and books present, I am including it. To expand this theory of "how," I add some of my own ideas from a more psychological standpoint. The last explanation is from the field of physics. To me, it offers compelling proof of the science behind homeopathy. The preceding theories are compatible with the physics, and they all complement each other nicely.

The Philosophy and Psychology of Homeopathy

It is said that homeopathic remedies activate one's "vital force." Contemporary homeopath Andrew Lockie uses the analogy of a trampoline to represent a healthy vital force: it contains the necessary bounce to throw off any and all stones that might be hurled onto it. But a trampoline that represents a weak and chaotic vital force cannot protect itself from an onslaught of stones. When stones are flung onto it, the trampoline sags even more because it lacks the energy to fling them off. A homeopathic remedy acts like a much heavier object than any of the stones. Bouncing this heavier object onto the trampoline provokes a sufficient enough recoil so that the stones are finally thrown off the trampoline. A well-chosen homeopathic remedy can be regarded as the stimuli that energizes the vital force in cases of acute or chronic illness.

My own (complementary) perspective is psychological, but it also incorporates physics. I believe that the key to the success of homeopathy—indeed, of all healing—is *resonance*. Love is literally a frequency of receptivity and acceptance; so when you love someone else, you are resonating with them. This principle is understood by highly effective psychotherapists and healers, who are taught to enter a state of receptivity. They may embody this state by matching their breathing with the breathing of the client; by (sometimes subtly) assuming a similar physical position with some part of their body; or by replicating one or more of a client's gestures. In psychological parlance, these body postures are called "mirroring." Parents in harmony with their young children do it naturally. A mother smiles when the baby smiles, frowns when the baby frowns. The child who is mirrored grows up feeling loved because she or he has been acknowledged—whether through being seen, heard, or felt. The physical manifestations of mirroring correspond to emotional and mental resonance; each reflects and supports the other. Emotional and mental resonance are literally expressed in the frequencies and waveforms that emanate from one's electromagnetic field, as seen with equipment ranging from electrocardiogram devices to polygraph (lie detection) instruments to Kirlian cameras.

Homeopathy is another form of mirroring—physically, psychologically, and emotionally. A homeopathic remedy that matches a person's oscillations can be regarded as "holding space" for the person to be the best of herself or himself. The remedy gives a clear reflection of what the system is doing and how it is "off." This, in essence, allows the body-mind-spirit to "tell" itself, "Oh, is that

what I'm doing? I don't want that; I want to do something else instead, to become whole." In other words, being given unconditional space elicits healing.

Psychologically, if being accepted (mirrored) equals the feeling of being loved, on a tangible level the immune response (vital force) is activated, enabling the body to activate its healing potential. For thousands of years, the ancients understood that because matter emits and receives frequencies, healing takes place on levels of resonance or energy. Today, we can scientifically validate not only the effects, but also the energies themselves (see Chapter 6 and Appendix C). Our thoughts matter. They carry power, intention, and resonance.

The Physics of Homeopathy

Thanks to quantum physics, we can actually measure healing. In *Biological Chemical, and Nuclear Warfare: Protecting Yourself and Your Loved Ones*, medical doctor Savely Yurkovsky quotes British physics professor Cyril W. Smith, who points out that "physics, and not chemistry,

is the science from which to seek explanations" of how homeopathy works.²⁶⁸ Yurkovsky concisely summarizes what has been done to measure homeopathy's effects.

There is another dimension to everything in Nature, including our environment and our bodies. This dimension energy is the deepest and the most fundamental of all. The various forms and

interactions of energy comprise the main subject of the science of physics, which according to the National Science Education Standards, has been established as the most fundamental in the hierarchy of all sciences. In practical terms, "most fundamental" means that the laws and theories of physics must apply to other sciences and disciplines including chemistry, biology and medicine. . . .

Quantum physicists have discovered that atoms are themselves composed of about 60 different subatomic, or elementary, particles. The process of homeopathic preparation is evidently capable of *transferring energy and information from the subatomic domains of the original crude substance onto homeopathic solutions* . . . *Modern technologies using spectra-analysis obtained with the Raman-laser, infrared absorbance and nuclear magnetic resonance (NMR), have all confirmed the difference in emission patterns between homeopathic remedies*

Health is a state of perfect subatomic communication and ill health is a state when communication breaks down. We become ill when our waves are out of sync.

—Lynne McTaggart
American journalist and writer,
and author of *The Field* (2008)
(born 1951)

*and a placebo. Furthermore, substances that were both diluted and succussed to 30X potency, according to full homeopathic method, exhibited a specific band pattern in their emission spectra that was absent when the substances were merely diluted but not succussed. . . . [emphasis added]*²⁶⁹

Put another way, a homeopathic remedy (or any other substance, for that matter) leaves an *electromagnetic imprint* in the water. Due to its crystalline structure, water holds the charge of a substance, much as a silicon computer chip holds the electronic impulse messages that make a computer perform its various functions. The pioneer scientist Fritz-Albert Popp surmised that high dilutions of a substance—which carry the same resonance or signal as the original, undiluted material—attract and absorb oscillations pertaining to the malfunction, thus allowing the body to return to normal.

“Signal” can be defined as the message that you intend to send. Most of the time, it’s easier for the body to respond to a single, pure signal than a message that contains as much “noise” as it does signal. A homeopathic remedy can be analogized as the pure signal, and a grosser chemical substance such as a drug can be regarded as containing a high level of “noise.”

Modern Homeopathy Modalities

Constitutional Homeopathy

With Hahnemann’s original method, *constitutional homeopathy*, the practitioner inventories everything about the person: emotional, physical and spiritual symptoms; likes and dislikes; lifestyle. Then the subject is matched to a remedy. Usually the subject begins with a low dose (perhaps 12C or 30C) and finishes with a high dose (perhaps 1M). Different symptoms and discomforts are addressed with each successive remedy. With this system, one must be very careful about what homeopaths call aggravations. An *aggravation* is the intensification of a symptom before that symptom disappears. Aggravations can occur if the subject takes too many doses too closely together, or takes a remedy at too high a dilution. This is one reason that people consult professional homeopaths.

It can be difficult to determine for oneself which constitutional remedy is needed, as people are often not objective about their own character and flaws. This is why even professional homeopaths often consult (or should

consult) other professionals. However, there are some remedies that are used for acute (sudden-onset) rather than chronic ailments; and these are safe for everyone and easy to use. *Arnica montana* is effective for aches, bruises, scratches, wounds, and sprains. *Chamomilla* is used for infants when they are teething. *Apis mellifica* (from honey bees) is for bee stings, *Rhus tox* (homeopathic poison ivy) is for a poison ivy outbreak, and so on. These short-term remedies are used at very low doses for specific conditions, and they’re discontinued when the symptoms subside.

Academic volumes, published for the serious student or practitioner, feature exhaustive lists of thousands of remedies, some of them exotic. There are also books for the non-practitioner on how to use common remedies for everyday acute problems. Dr. Samuel Hahnemann was the first, but not only, person to devise a system of homeopathy. Modern constitutional homeopaths follow Hahnemann’s classic method of a single remedy at a time, while nontraditional homeopaths may prescribe several remedies

concurrently (such as organ support).

Homeopathic may be regarded as the dilution and succussion process by which remedies are prepared; although for that function, some practitioners prefer the term *potentization* and still regard “homeopathy” as strictly exclusive to Hahnemann’s methodologies. Nevertheless, as many subtle energy preparations are placed into the category of homeopathy, let’s look at some of them.

Cell Salts

Cell salts, also called *biochemic tissue salts*, were discovered by German medical doctor Wilhelm Heinrich Schuessler (1821–1898). Initially a practicing homeopath, in 1858 Schuessler decided that treatment should involve the basic constituents of the body’s cells. He used 12 basic trace mineral salts. Some contemporary systems have added more mineral salts, although they are less commonly used.

Although homeopathically prepared, the dilutions are very low (from 1X to 12X). Therefore, because minuscule amounts of the substances remain in the preparations, the cell salts are not administered according to Hahnemann’s “like cures like” principle. Straddling the line between subtle and physical, cell salts are easily absorbed by the body as nutrients. Depending on which cell salt is ingested, the body uses it to repair bone, cartilage, ligaments, muscles, blood vessels, nerves, and other tissues.

Homeopathy cures a larger percentage of cases than any other form of treatment, and is beyond doubt safer and more economical.

—Mahatma Gandhi
Leader of Indian
independence movement
in British-ruled India,
and inspiration worldwide for
non-violent civil disobedience
(1869–1948)

Schuessler felt that it was much easier to use these cell salts than the remedies in Hahnemann's system, which not only required a broad knowledge of effects, but also meant delving into the most intricate details of a subject's life. Skilled practitioners today might use facial diagnosis to determine which salts are required. Laypersons can simply want to use a combination remedy of the 12 basic cell salts, ensuring that the body is receiving all the nutrients it may need on a cellular level.

Immaterial Substances (Imponderables)

A homeopathic remedy can be created from anything: animal, vegetable, mineral, or energy waves (gamma rays; radio waves; X-rays and other ionizing radiation; the sun; electromagnetic, electrical or magnetic fields; etc.). A remedy made of X-rays was first proved in 1897, two years after Röntgen discovered X-rays. As modern life becomes increasingly complex and we are exposed to more (and different kinds of) ray-based pollutants, we need the flexibility and imagination to create remedies out of whatever ails us. Hence, the class of homeopathic remedies called *imponderables* was created. Although not widely known, the remedies in this group are highly effective. Sensitive people who react negatively to EM radiation in general—or to specific frequencies from cell phones, computers, high voltage towers, microwaves, or televisions (to name just a few)—may find this group of remedies particularly helpful.

Bach Flower Essences

Born in 1886 in England, Edward Bach was an intuitive and compassionate surgeon. Although he had a thriving private practice and worked at a prestigious hospital, he was dissatisfied. He saw few genuine cures. And he did not like being told to concentrate on diseases, as he believed that illness was a manifestation of disharmony in both body and mind and he wanted to treat the whole person. So in 1930 at age 43, he quit his practice and roamed the British countryside in search of new ways of healing.

This new system, known as the Bach Flower Remedies, consisted of 38 different remedies. All except one (made from a rock, intended to treat exceptionally rigid subjects) were comprised of flowers, picked at the peak of their bloom and infused in bowls of spring water left in the sun for awhile. Bach observed that when emotional imbalances were addressed, physical ailments healed. He spent the rest of his life administering his own “discovered” remedies to clients, with excellent results. Often, he dispensed several remedies together in the same bottle.

Advanced Bach Flower Therapy, by medical doctor Götz Blome, is an excellent book on how to use these essences.

Other Plant and Gemstone Essences

Dr. Bach left such an impressive legacy that other healers followed his example, communing with plants in their own regions of the world. Plant essences have been developed in the US (Alaska and California), Australia, and elsewhere. There are even essences made from gemstones. They all address different kinds of emotional and physical disharmony, in language reflecting the mindset of those who discovered the remedies. The powerful Australian Bush Flower Essences may help produce the deepest and most positive changes in the shortest amount of time.

These essences work differently from Hahnemann's remedies and other remedies that were discovered, proved, and used in similar ways (constitutionally) after Hahnemann's death. Although aggravations do sometimes occur with flower and gem remedies, this phenomenon isn't very common. Many books and websites describe how to use flower and gem essences, which are taken worldwide, and with good to excellent results.

Isopathy (Isodes)

Iso is derived from the Greek word for “equal.” Developed in Germany in the 1830s, its motto might be “the same exact thing cures the thing.” Whereas Hahnemann searched for the substance that matched the *symptoms* of the subject, isopathy uses a homeopathically potentized form of the *exact noxious ingredient* that initially *caused* the symptoms. The ingredient could be a pathogen, chemical, poison, drug, allergen, or even an innocuous food or something ordinary like soap. The homeopathically prepared remedies that are administered to neutralize the ingredients initially encountered by the subject, are called *isodes* (and sometimes, incorrectly, *nosodes*). This excellent modality can be quickly and effectively used in cases of poisoning (see the next page).

Autoisopathy (Nosodes)

Some people merge the categories of autoisopathy and isopathy, calling them both “isopathy.” Autoisopathy uses the subject's own bodily fluids and occasionally tissues—saliva, urine, blood, pus from wounds, scabs, etc.—that contain the disease-causing agents and/or their toxic byproducts. The homeopathically potentized remedies created from these diseased tissues are commonly called *nosodes*. (Some practitioners use the term *isonosode* to designate material from a similar group, and the term *autonosode* to designate material from the actual subject.)

Whereas classical homeopathy deals with many symptoms and the required remedy could be anything at all, isopathy and autoisopathy are meant to directly manage the noxious agent that is causing the immediate

How To Make Your Own Homeopathic Remedies (Isopathy / Isodes and Autoisopathy / Nosodes)

When To Make Your Own Remedy. Instead of taking a commercial remedy, you make your own remedy when:

- ◆ A commercially made remedy is not available to you.
- ◆ You need emergency treatment, and require a situation-specific remedy immediately.
- ◆ Your situation is unique, and a homemade remedy may work better than another (commercially prepared) remedy.

Example #1: A woman is bathing her toddler and some soap drifts into the child's eyes. The eyes turn very red and begin tearing. The mother immediately scoops up some of the soap and makes it into a remedy, which she orally administers to the little girl every 5 minutes. The child's eyes become completely normal in about 20 minutes.

Example #2: A man visits a very polluted part of the world, close to where a nuclear reactor disaster has occurred. He develops a headache, sore throat, swollen glands, and a rash—some of the classic symptoms of radiation poisoning. He places a clean, uncovered jar outside, pours a little water into the jar, and leaves it outside overnight. From this water he makes the remedy, which he will be taking long term.

Example #3: You are very ill with the flu and are suffering intense respiratory distress. Coughing from deep in your lungs, you bring up mucus and spit into a clean bottle. You fill it with water and make a remedy. Every day or every other day as your condition markedly changes, you'll repeat this process until you're feeling well.

Making Remedies From Your Own Bodily Fluids. This includes saliva (the easiest and safest), urine, tears, and blood.

- ◆ *Obtain a sample of the substance.* **Saliva:** Spit saliva into a clean glass. **Urine:** Let the beginning flow of urine fall into the toilet first, then catch a small sample of urine in a clean cup. **Tears:** Let them fall into a clean cup. **Blood:** Prick your finger with a sterilized needle (sterilized with a flame, then cooled), and place a few drops into a cup.
- ◆ **Succussion #1.** Put a tiny amount of the substance into a 1-ounce dropper bottle. Add 20 drops of water to the bottle and its contents. Screw on the cap. Succuss (shake) the bottle firmly 20 times, banging the bottom of the bottle with the heel of your hand. **Potency: 1X**
- ◆ **Succussion #2.** Pour out all the water (and any solid contents) from the bottle. (One drop remains automatically.) Add 19 drops of water and succuss again 20 times. **Potency: 2X**
- ◆ **Succussion #3.** Pour out all the water in the bottle. (One drop remains automatically.) Add 19 drops of water and succuss again 20 times. **Potency: 3X**
- ◆ **Succussion #4.** Pour out all the water in the bottle. (One drop remains automatically.) Add 19 drops of water and succuss again 20 times. **Potency: 4X**
- ◆ *Fill the remainder of the bottle with water.* Take a dropperful once to twice daily for one week. Succuss before each dose.
- ◆ *Make a new batch each week, as your body's changes will require new and different energy.*

Making Remedies From Your Own Bodily Solids. This includes vomit and stool (and perhaps mucus). *Do not use this method unless you have an electronic remedy maker. This ensures that no toxic molecules will be in the solution.*

- ◆ *Obtain a small sample of the substance.* Be very careful when handling it because it's probably infectious. Use rubber or latex gloves if you can, and handle it with a clean tongue depressor or small wooden toothpick.
- ◆ *Follow the instructions of the remedy maker. Make a new batch each week, as your body's needs will change.*

Making Remedies From Exogenous (outside of the body) Substances. These are noxious substances to which you are accidentally exposed: spoiled or allergenic foods, radiation, pollen, chemicals, drugs.

- ◆ *Obtain a sample of the substance.*
 - a) If it's a solid material, you need just a small amount. Scoop it with a clean utensil (wood preferred). If it's obvious dust or mold particles, you can gather them with a utensil or a clean paper towel.
 - b) If it's pollen or plants, collect a representative sample and let them soak in water. Use this water as the allergenic solution from which you'll be making a remedy.
 - c) If it's airborne, hang a clean wet paper towel in the air and allow it to dry. Then tear off a small piece from the area that had been wet. This will contain the airborne substance you need—be it mold spores, radiation, or other contaminants in the air. Alternatively, you can simply place a small amount of clean water into a bottle and leave it open to the air. The remedy can be made from this solution.
- ◆ *Follow instructions Succussion #1—#4, middle of page. Make a new batch each week, as your needs will change.*

symptoms. Even though not all symptoms are necessarily addressed by a nosode, it can save someone's life in cases of sudden and severe infection.

Some people, intending to prevent a disease, use these homeopathically prepared discharges as one would use an allopathic vaccine. However, because these nosodes carry the energy of the disease, they are best used only *after* the individual has already contracted the pathogen and there's an outbreak. See Insert, "How To Make Your Own Homeopathic Remedies."

Combination Formulas

Most health food stores carry homeopathic preparations that contain a mixture of many different substances, all at low doses (mostly in the "X" range). Available as creams or tinctures, the most popular of these remedies address allergies, colds, the flu, and injuries. Most constitutional homeopaths (in the strict tradition of Hahnemann) don't approve of multiple-remedy formulas. Some analogize such low-dose preparations as "throwing it all on the wall and seeing what sticks." While there's some truth to this criticism, I have often utilized such preparations with good results—especially a popular cream that contains *Arnica montana*, *Ruta graveolens*, *Hypericum perforatum* and other substances that work well for injuries. People without access to (or funds to pay for) constitutional homeopaths find such formulas very helpful, especially for everyday conditions and emergencies.

Electronic Homeopathy

The growing market of electromedical devices includes equipment that creates homeopathic remedies using electricity, based on a substance's electromagnetic signature. The actual substance is placed on the "send" part of the machine, and a bottle of fluid or starch pellets is placed on the "receive" part to collect a homeopathic imprint of the ingredient. Some machines allow the user to program any potency, while other units can impart only a few potencies. These machines can make remedies from blood, urine, saliva or skin cells; from mold collected in the house; from stinging soap that has gotten into the baby's eyes; from radioactive elements in the air or soil; from the pollen of flowers growing in the neighborhood that's making you sneeze. The possibilities are endless. Some machines can also copy already existing remedies.

Sarcodes

Sarcodes are different from other homeopathic remedies. Based on the principle that each type of tissue has its own frequency, they're made from healthy living tissue. The frequencies reinforce targeted cells of the body to function properly, and are usually delivered via electronic means.

The Growing Popularity of Homeopathy

The list of famous and accomplished people who have used homeopathy, often as their primary medical care, is impressive. This includes eleven US Presidents (including Abraham Lincoln and Bill Clinton); two British Prime Ministers (Disraeli and Blair); seven Popes; many US writers including Ralph Waldo Emerson, Henry Wadsworth Longfellow, Louisa May Alcott and Nathaniel Hawthorne; and the European writers Goethe, Sir Arthur Conan Doyle, Lord Alfred Tennyson and George Bernard Shaw. Other notables include Charles Darwin (who asserted that he would not have been able to write *Origin of Species* without receiving homeopathic treatment); sports greats David Beckham and Martina Navratilova; musicians (ranging from Ludwig van Beethoven and Frederic Chopin to Dizzy Gillespie, Tina Turner and Paul McCartney); and film and TV personalities, just some of whom include Sarah Bernhardt, Marlene Dietrich, John Wayne, Suzanne Somers, Lindsay Wagner and Tobey Maguire. Most impressive are the leading physicians and scientists who spoke favorably about homeopathy: Sir William Osler (called the "father of modern medicine"), Emil Adolph von Behring, MD (called the "Father of Immunology"), Charles Frederick Menninger, MD (founder of the Menninger Clinic, which today specializes in treating psychiatric disorders), August Bier, MD (called the "father of spinal anesthesia"), C. Everett Koop, MD (former Surgeon General of the US), and Brian Josephson, PhD (Cambridge professor and Nobel Laureate).

The British royalty has been well known for not only using homeopathy, but also for publicly supporting it. The British became consistently involved in 1835, after one of Hahnemann's colleagues cured Queen Adelaide's heart condition that conventional medicine had been unsuccessful in treating. Today, Queen Elizabeth II is patron of the Royal London Homeopathic Hospital.

Homeopathy was initially accepted by the mainstream medical profession when it was first brought to the United States in 1825 by the few doctors who had learned it from Hahnemann. Although neither the medical community nor Hahnemann himself could explain exactly how it worked, they all agreed that certain natural substances, in a very diluted form, promoted healing. In fact, homeopathy worked well enough for them to prescribe it for their clients. By the mid-1800s, several medical schools in the United States were teaching homeopathy, and by the early 1900s, the number of colleges grew to twenty-two. At that time, only Western-trained medical doctors were allowed to practice homeopathy, and one out of five doctors chose to administer it. But by the late 1940s, the mechanical model of science made homeopathy unpopular.

A large number of reputable scientific studies have been conducted on homeopathy and published in scientific journals (which is rather surprising, given the allopathic medical monopoly). In 1991, the *British Medical Journal* published an analysis of 107 controlled clinical trials, *spanning 25 years*, on the safety and effectiveness of homeopathy.²⁷⁰ Impressively, the investigators concluded that about 80% of the trials were of high enough quality to demonstrate homeopathy's value. Unfortunately, many favorable articles that have been published in peer-reviewed journals are no longer available when major information retrieval systems are searched. In the arenas of chemistry, medicine and general science, the necessary keywords are simply not in the databases. One such keyword is "hormesis." *Hormesis* is the science of healing from tiny amounts of a substance which, in large amounts, would kill. This isn't as outrageous as it may sound. For instance, the immune soldiers, T-lymphocytes, become overwhelmed by high concentrations of *antigens* (invader toxins that stimulate the production of *antibodies*, or defense immune proteins). However, low amounts of the same antigens stimulate the T-lymphocyte defense mechanisms. This principle applies to allergens and the treatment of allergies. It can also apply to homeopathy.

As for conducting more studies—assuming that such research would even be published by the allopathically dominated medical journals—one problem is equipment. Studies involving the quantum realms require the use of very expensive, sophisticated machines; and equipment that can properly measure the remedies is not standard in most laboratories. Also, little or no money can be made from proving that homeopathy works. Therefore, most researchers don't feel a need (or have extra money) to conduct more studies. Considering the financial and political power of the medical-pharmaceutical cartel, it's understandable why homeopathy isn't utilized in every medical clinic worldwide. Not surprisingly, the FDA is now trying to regulate homeopathy like a drug (which means that its everyday, easy access is being threatened).

In societies that teach a mechanistic view of the universe, many people have difficulty perceiving that homeopathy is a valid healing modality—even when they are offered scientific proof. Not coincidentally, opponents of homeopathy often gravitate to (and cite) the few, poorly conducted studies that presumably prove homeopathy to be fraudulent. At this point in human history—especially considering advances in modern quantum physics, and the use of electromedicine worldwide—it seems futile, if not downright silly, to try to refute the energetic aspect of physical matter. Homeopathy can work for everyone. I use this exceptional vibrational medicine in my everyday life, and would not be without it.

DETOXIFICATION

It's a Dirty Job, But Someone Has To Do It

A naturopath once told me that she hated the term "detoxification." Surprised, I asked her why. The term, she replied, suggested that our bodies are dirty, an idea she found distasteful. The problem was, she was associating the accumulation of debris with moral failure. But there's no judgment here! The truth is, our bodies *are* dirty. Or rather, they *get* dirty. Waste removal in a living system is a fact of life. In fact, it's a sign that there *is* life. Removing debris from our system is like replacing the oil in our car or changing the spark plugs to ensure that the car burns fuel more efficiently and runs smoothly. We want our bodies to give us better mileage as well.

The terms "detoxification" and "cleansing" are often used interchangeably, though technically they're different. *Detoxification* is a deep biochemical process during which systemic poisons are transformed into less harmful wastes. The only organ that can perform this conversion is the liver; and it does this in four stages. (All four stages must be completed before toxic substances become completely benign.) The colon, kidneys, lungs, skin, and to a certain extent the lymph, are elimination channels. They help move wastes out of the body, but they themselves are not involved in metabolically transforming the poisons. *Cleansing* is the process of mechanically clearing or nutritionally supporting the elimination channels.

Because so many people use the two terms interchangeably, I will discuss detoxification and cleansing together. Many health practitioners, especially allopathic doctors, are ignorant of simple, effective protocols that not only can help you feel better, but may save your life.

The Pollutants That Surround Us

Functionally, each cell in the body is a microcosm of the larger organism to which it belongs. Cells "breathe" (cell respiration), ingest and metabolize nutrients, excrete wastes, and respond to stimuli—input, signals and instructions—that originate outside the cell and are transmitted through receptors in the cell membrane. These various forms of stimuli exist in the form of electrical, magnetic, and electromagnetic signals. On the physical level, their counterparts are chemical messengers.

There are two sources of pollutants in the body: toxins originating from or produced in the system itself (*endogenous*), and those introduced from outside the system (*exogenous*). Exogenous substances are most often acquired through ingestion, inhalation, or transdermally (through the skin).

The Health Hazards of Fabric Softener

Fabric softener is a dangerous chemical cocktail that's promoted as essential for laundry and suitable for everyday use. Sold all over the world, fabric softener is manufactured as a liquid, as a powder, or in chemical-impregnated fibrous material (popularly called "dryer sheets"). Although fabric softener is poisonous, many people use it in their homes several times a week—overburdening their liver's ability to neutralize the chemicals, and over time, making themselves and their families chronically ill, even terminally ill.

The chemicals in fabric softener are delivered in several ways. Tenaciously lodging in clothing fibers and outgassing into the air indefinitely, these chemicals enter the body through the skin of anyone who wears or touches the clothing. The chemicals also enter the bloodstream through the nose and lungs. As these chemicals pollute the air a good distance from their source, even those who don't use fabric softener are affected—whether they pass an area where laundry is being done or they're near someone who has it on their clothes. Ironically, consistent exposure for uninterrupted periods of time numbs the olfactory nerves, which are then unable to detect the presence of these chemicals.

Here's a brief summary of the ingredients in a typical fabric softener product—which manufacturers are not required to list on the product labels. The central nervous system (CNS) damage mentioned below includes aphasia (brain injury, causing the inability to produce or comprehend language), blurred vision, disorientation, dizziness, headaches, abnormal hunger, memory loss, numbness in the face, and pain in the neck and spine. Diseases associated with the central nervous system include Alzheimer's, Attention Deficit Disorder, dementia, Multiple Sclerosis, Parkinson's Disease, seizures, strokes, and Sudden Infant Death Syndrome (SIDS).

- ◆ *Alpha-Terpineol (A-Terpineol)*: Nerve damage. Ataxia (loss of muscle coordination). Severe mucous membrane irritation. Respiratory damage, lung inflammation, and fatal edema. Severe hypothermia.
- ◆ *Benzyl Acetate*: Known involvement in pancreatic cancer. Eye and respiratory passage irritation.
- ◆ *Benzyl Alcohol*: CNS damage. Gastrointestinal disturbances (nausea and vomiting). Respiratory tract irritation. Industry literature indicates that in severe cases, death results from respiratory failure.
- ◆ *Camphor (synthetic)*: Respiratory tract damage (coughing and wheezing). Eye and skin irritation. Headaches, mental confusion, seizures. Stomach pain and nausea. Kidneys and nervous system damage. High exposures can cause unconsciousness and death. On the Hazardous Substance List because it's regulated by OSHA (Occupational Safety and Health Administration). Note: the synthetic camphor used

in fabric softener, mothballs, and other commercial products is different from naturally-occurring camphor in some Chinese medicine formulas that's made by distilling the bark and wood of the camphor tree. Used correctly, *natural* camphor relieves pain, reduces itching, increases blood flow, eliminates fungal infections of the skin, and is sometimes inhaled to break up accumulated mucus.

- ◆ *Chloroform*: Central nervous system damage. Gastrointestinal disturbances (nausea and vomiting). Respiratory distress. Kidney and liver damage. Loss of consciousness. On the Environmental Protection Agency's Hazardous Waste list as carcinogenic. Industry literature (Material Safety Data Sheet) warns against breathing vapors, as inhalation can be fatal. The MSDS also advises to avoid exposing the substance to heat.
- ◆ *Ethanol*: Central nervous system damage. On the EPA's Hazardous Waste list.
- ◆ *Ethyl Acetate*: Eye and respiratory tract irritation. Narcotic (can cause stupor). Kidney and liver damage. Anemia. On the EPA's Hazardous Waste list.
- ◆ *Limonene*: Eye and skin irritation. Respiratory distress. Carcinogenic.
- ◆ *Linalool*: Central nervous system damage. Depressed heart activity. Respiratory distress, sometimes causing death.
- ◆ *Pentane*: Central nervous system damage. Eye irritation. Gastrointestinal disturbances (nausea and vomiting). Major respiratory damage. Skin rash (dermatitis). Industry literature (Material Safety Data Sheet) warns that inhaling the vapors may cause loss of consciousness.

Safe substitutes for conventional fabric softener exist, so there's no reason to ever use it. Some stores now sell unscented alternatives made with safe ingredients. You can also add ¼ cup of baking soda to the wash cycle, or add ¼ cup of white vinegar to the rinse cycle to eliminate static cling as well as soften fabric. (Don't use bleach at the same time; this may create toxic fumes.) Also to reduce static cling, allow your clothes to air-dry. Synthetic material, which causes most of the static cling, dries quickly when hung. The sun, as well as providing heat, always helps make clothing smell fresh.

It's hard to get fabric softener out of clothing. You will need to wash the clothes many times in soap and baking soda. Essential oils of citrus or lavender added to the wash water helps. You will need to hang the clothes in the sun for more than a month. While the clothes are hanging, spray them intermittently, many times, with 3% food grade hydrogen peroxide.

Fabric softener is not a necessity or a luxury. It's a poison!

First I will give you a quick look at the wastes produced by and inside the body. Then I'll briefly review some of the most common and poisonous chemicals, most of them deliberately produced by industry. These chemicals create an extraordinary burden on living systems by impairing vital functions. It should be against the law to create them—especially when perfectly serviceable substitutes, many of which work even better than their counterparts, can be found in the natural world.

Endogenous Biochemicals

You may recall the account of French doctor Alexis Carrel in the earlier section on **Water**. When he faithfully changed the mineral bath surrounding a piece of chicken heart, every day, the tissue remained alive, dying only when Carrel stopped changing the water. The tissue died because it was suffocating in its own waste. In live humans (and animals), the process is identical. If we fail to eliminate the accumulated load of poisons, we become ill.

There are many endogenous chemicals that can interfere with the body's function. Excess levels of stress hormones (such as corticosteroids), metabolic wastes that are too acidic or alkaline, and even normally beneficial biochemicals that the body cannot use and is unable to eliminate in a timely manner, all cause unfavorable changes in the terrain—and hence, every function of the body. Natural medicine emphasizes the regular elimination of toxins because it recognizes that accumulated waste breeds disease, much like piles of garbage attract flies.

In time, if endogenous chemicals are not eliminated, the person will become ill. Often, the body will create waste products in response to exogenous toxins, or those from external sources (see directly below).

Synthetic Chemicals and Heavy Metals

It's staggering to contemplate that "Humans Have Made, Found or Used Over 50 Million Unique Chemicals."

Humans have found or made 50 million different chemicals here on Earth, the vast majority over the last few decades. At least, that's how many unique chemicals are now registered in a database maintained by the American Chemical Society as of yesterday [September 9, 2009]. . . . "A novel substance is either isolated or synthesized every 2.6 seconds on the average during the past 12 months, day and night, seven days a week in the world," said Dr. Hideaki Chihara, PhD chemist and former president of Japan Association for International Chemical Information.

The rate [at which] new chemicals are being produced and isolated is astounding. It took

33 years to get the first 10 million chemicals registered and a mere nine months to get the last 10 million chemicals into the database. . . . While the Chemical Abstracts Service registry is the most comprehensive list around, there are undoubtedly more proprietary substances that remain off the books.²⁷¹

Of the chemicals that become new products (and leach into our environment and our bodies), less than half are approved by government agencies. These chemicals not only taint our air, water and soil, but they also contaminate the bloodstream, fatty tissue, and even breast milk of humans and animals. A 1995 study appearing in the *Proceedings of the American Public Health Association* stated that according to the United States Environmental Protection Agency, every person in the US had accumulated at least 30 different toxic chemicals in their tissues. Later studies increased that figure to 127. Then in 2005, researchers from the Environmental Working Group discovered an average of 200 industrial chemicals in umbilical cord blood of newborns.²⁷² Among the pollutants were pesticides, heavy metals (including mercury), perfluorochemicals (used as stain and oil repellants), flame retardants, and wastes from the burning of coal, gasoline and garbage.

A brief excerpt from my book, *The Holistic Handbook of Sauna Therapy*, describes the toxins in our environment.

[These chemicals] include pesticides, fertilizers, and volatile organic compounds (VOCs)—among which are formaldehyde, toluene, benzene, and styrene. These are found in antifreeze, carpet, disinfectant, laundry detergent, polishes and varnish, shampoo, even packaged foods. Heavy metals (also known as toxic metals) also find their way into the body—cadmium, lead, mercury and zinc in cleaners, cosmetics, paint, solvents, vaccines, and thousands of other items.

Detergents, heavy metals and solvents abound in cleaners, soaps and personal care products. Hydrocarbons and sulfur dioxide are in automobile, bus and airplane exhaust. Carpet contains acetone, benzene and ethylbenzene, formaldehyde, phthalate, styrene, toluene and xylene, in addition to heavy metals that give them their bright color. Clothing is treated with fire retardant and fabric softener. Computers, telephones, electronic devices, and thousands of other things outgas molecules of plastic. Deodorizers and mothballs are made from dangerous petrochemicals. Fertilizers also contain petrochemicals. Furniture, glue and adhesives contain solvents. Pesticides, insecticides,

fumigants, and fungicides, purposely made to be deadly, are registered poisons with the United States government. They are sprayed onto our crops and now are embedded in cooking utensils and children's toys. Shoe polish is comprised of dyes synthesized from coal tar, which in turn is derived from petroleum. Second hand cigarette smoke alone contains (among other chemicals) acetone, acetylene, ammonia, benzene, carbon monoxide, DDT, formaldehyde, heavy metals, hydrogen cyanide, methane, methyl alcohol, nickel compounds, nicotine, and propane.²⁷³

Fat cells have an affinity for trapping toxins, most of which are fat-soluble. This is actually a protective act, as the fat prevents poisons from circulating in the bloodstream and lodging in vital organs and glands. However, although an acceptable (temporary) strategy for waste storage, it's not a permanent solution. It's better to eliminate these poisons entirely. After I discuss radiation and microbial toxins, I'll provide a number of cleansing protocols for the major organs and glands of detoxification.

Radiation

In March of 2011, six nuclear reactors at the Fukushima Daiichi Nuclear Power Plant in Japan were severely damaged by a 9.0 magnitude earthquake and resulting tsunami, or tidal wave. Whenever a nuclear reactor leaks, deadly radiation is released. Carried by winds and rain and ocean currents, radioactive elements don't simply disappear; they last for a long time, usually centuries. The high levels of fallout from Fukushima were even greater than those from an earlier, widely publicized nuclear reactor disaster that had occurred in Chernobyl, Ukraine, in 1986. Soon after the Fukushima reactor damage, the jet streams of the Pacific Ocean were spreading the deadly particles to western United States and Canada. Animals began dying in the Pacific in record numbers. In 2013, Japanese doctor Shigeru Mita publicly stated that Tokyo was no longer fit to be inhabited. Not surprisingly, the entire planet is now contaminated.

One toxin that was released was a radioactive isotope of iodine—not normal iodine or potassium iodide, which are vital nutrients. Some sources estimate that as many as 750 rads of radioactive iodine contaminated the areas closest to the Fukushima reactors. A *rad* is a unit of absorbed dose of ionizing radiation. To give a comparison, one chest X-ray is about 3/100 rads, and one Computerized Tomography—also known as a CT or CAT scan, a three-dimensional X-ray used to find tumors and get detailed pictures of the body—is 1 rad. Radioactive iodine displaces healthful iodine from the body's receptor sites, thus destroying

thyroid function. Low thyroid function is now epidemic, largely due to huge amounts of airborne radioactive iodine.

Other types of harmful nuclear radiation included depleted uranium, cesium-137, cobalt-60, plutonium-238, plutonium-239, zinc-65 (a product of nuclear reactors, not the beneficial mineral zinc), and sulfur-35 (a product of nuclear reactors, not the beneficial mineral sulfur). Cesium-137 may be the most destructive radioactive product of all. With a 30-year half-life, it takes 30 years for half of its unstable atoms to decay and become benign. Cesium-137 contaminates the water and air. It remains in the soil for 200 to 300 years, rendering the land unusable for agriculture. This radioisotope can be ingested or inhaled, increasing the risk for cancer due to the high-energy gamma radiation and beta particles that it emits. Cesium-137 permeates soft tissues, especially muscles.

Symptoms of radiation poisoning (called “radiation sickness”) include weakness and dizziness; skin burn, blisters and itching; severe gastrointestinal pain, vomiting and diarrhea; septicemia (systemic inflammatory response caused by serious infection); extensive bleeding, both internally and from the nose; hair loss; nervous system damage (convulsions, delirium and seizures); respiratory failure; and eventually death, if the radiation levels are high enough. Cataracts in the eyes form more easily, and the incidence of cancer triples. All these conditions reflect genetic damage, death of bone marrow, and the failure of the body to produce white and red blood cells. The global mainstream media first minimized the seriousness and scope of the most widespread fallout that's ever occurred on the planet, and now media blackout is almost total.

I discuss radiation not to induce fear, but to help you give your body what it needs to cleanse and restore itself. Food is critical. Sugars, glutinous grains, and fake foods (trans fats, artificial sweeteners, preservatives, and other chemicals) offer no protection, and make the body sicker. The following foods, however, encourage cellular repair and offer some protection against radiation.

- ◆ *Animal Protein.* High levels of nucleotides (organic molecules that form DNA and RNA) are in sardines, anchovies, and liver from grass fed beef or free range chickens. Radioprotective Vitamin A is also in animal foods: beef, liver, poultry, raw dairy, and egg yolks.
- ◆ *Vegetables.* Cook Brassica family vegetables; their goitrogen compounds can lower thyroid function. Leafy greens (spinach, Swiss chard, lettuces) are rich in minerals (including magnesium, potassium, and calcium). The carotenoids in high beta-carotene veggies (carrots and other yellow vegetables, and dark leafy greens) are also radioprotective.

Protection from Radiation: General Guidelines

1. Iodine

The Entire Body Needs Iodine. The adrenals, breasts, digestive tract, eyes, kidneys, liver, lungs, pancreas, reproductive organs, salivary glands, sinuses, skin, thyroid gland, and white blood cells need iodine. There are two types of iodine—potassium iodide and unbound (or elemental) iodine. The thyroid gland typically uses potassium iodide, but most other parts of the body use iodine in its unbound state.

Among other functions, the thyroid gland regulates cell metabolism, energy, protein utilization, and temperature. To produce hormones, the gland needs the minerals selenium and zinc, and the amino acid tyrosine. During nuclear reactor malfunctions and nuclear fallout, radioactive iodine isotopes are released into the air. If the body's iodine supply is insufficient, radioactive isotopes latch onto the thyroid gland instead, causing severe illness and even death. Half of Earth's population is estimated to be deficient in iodine, so this is a good time to start iodine supplementation. Many doctors recommend taking both types of iodine to cover the needs of all the body tissues that use it.

Different Types of Iodine

- ◆ **Potassium Iodide (KI).** Iodine is in food and in supplements. As a synthetic chemical, potassium iodide is iodine bound to potassium. Naturally occurring in foods (such as sea vegetables and raw dairy), the iodine is bound both to potassium and to protein or peptides. KI from food is transported easily through the bloodstream and readily absorbed.
- ◆ **Unbound (also called Elemental, Colloidal, Atomic, and Nascent) Iodine.** Toxins typically have a positive charge, and atomic or elemental iodine has a negative charge, which allows it to bind to toxins. Manufacturers of elemental iodine assert that its molecular structure makes it absorbable by the entire body, including the thyroid gland.
- ◆ **Lugol's Solution (a combination of Potassium Iodide and Unbound Iodine).** Dr. David Brownstein and others routinely use a combination of KI and unbound iodine to treat underactive, overactive, and autoimmune thyroid disorders. Subjects are given selenium for several weeks before the iodine to eliminate a possible "thyroid storm"—rapid heartbeat, fever, and other effects from too much hormone suddenly secreted in response to the iodine.

Cautions. People who report negative effects from iodine, or an allergy to it, may be reacting to fillers or binders in the iodine preparation. Or, they may be responding to toxins that the iodine is causing the body to release. If enough iodine is ingested, it will displace fluoride, bromine and chlorine from the tissues and release them into the bloodstream. Toxins are picked up by bile. Ingesting activated charcoal will help scavenge the toxins in the bile.

How To Take. Conservative doctors suggest mcg amounts. Increasing numbers of holistic practitioners recommend 130 mg or more. Seek professional guidance; iodine is not just for times of radioactive fallout.

2. Baking Soda / Sodium Bicarbonate / Bicarbonate of Soda

Kidney Function. The kidneys are usually the first organs to show chemical damage from uranium exposure. Military manuals recommend sodium bicarbonate to help the body neutralize and excrete depleted uranium, and to alkalize the urine. Manufactured sodium bicarbonate (NaHCO_3) is related to a naturally occurring mineral in bile (produced by the liver). The bile duct excretes sodium bicarbonate into the small intestine to neutralize the acidity of the hydrochloric acid created in the stomach. Do not confuse baking soda with baking powder, which contains other ingredients, often aluminum! Use 100% pure baking soda.

How To Take (Internally).

- ◆ In 1925 the Arm and Hammer Company, manufacturer of NaHCO_3 , recommended for the flu: *Day 1*, take ½ teaspoon in a glass of water, at 2-hour intervals, six times a day. *Day 2*, take ½ teaspoon, at 2-hour intervals, four times a day. *Day 3*, take ½ teaspoon, morning and evening. *Subsequently*, take the same amount each morning until better.
- ◆ To help your body excrete radiation and other toxins, Dr. Marc Sircus suggests taking 1 teaspoon of sodium bicarbonate in a glass of water on an empty stomach, at least 1 hour before meals and 1 hour after meals.

How To Take (Externally). To pull out toxins and radiation from the body, lie in a hot water bath for 15 to 30 minutes with either the following combination formulas, or just a single ingredient if that's all you have:

- ◆ 1 cup of baking soda and 1 cup of salt.
- ◆ 1 cup of baking soda and 1 cup of magnesium chloride.
- ◆ 1 cup of baking soda, 1 cup of magnesium chloride and 1 cup of sodium bentonite clay. (Use a clay poultice too.)

3. Sea Vegetables (Seaweeds) and Sodium Alginate (extracted from brown algae *Laminaria japonica*)

Properties. Sea vegetables and algae build immune response, protect against radiation, and bind heavy metals. Seaweeds include arame, dulse, hijiki, irish moss, kelp, kombu, laver, nori, rockweed, sea lettuce, and wakame. The cleanest seaweeds are from the Atlantic Ocean. Note: Vitamin B12 inhibits the uptake of cobalt-60 (used in nuclear medicine), but the B12 in seaweeds is an *analogue* that latches onto the body's B12 receptor sites and prevents the real vitamin from being utilized. So, hours away from eating seaweed, take a methylcobalamin B12 supplement.

During the atomic bombing in World War II, Dr. Tatsuichiro Akizuki (Director of the Department of Internal Medicine at St. Francis's Hospital in Nagasaki) fed his staff and patients a strict diet of brown rice, miso soup, tamari, wakame and kombu and other sea vegetables, Hokkaido pumpkin, and sea salt. He also prohibited the consumption of sugar and sweets because they suppress immune function. No one developed radiation poisoning, whereas the occupants of hospitals located much further away from the blast suffered severe fatalities. At the Institute of Radiation Medicine in Minsk, Russia, children who ate 5 grams of spirulina a day for 45 days had enhanced immune response and lower radioactivity levels. Israeli scientists normalized the blood chemistry of Chernobyl children with *Dunaliella Salina* algae, which contains naturally high levels of beta-carotene.

The high mineral levels in seaweed help protect against exposure to radioactivity. Iodine helps prevent the uptake of iodine-131. Iron inhibits the absorption of plutonium-238 and plutonium-239. Zinc inhibits the uptake of zinc-65. And sulfur inhibits the uptake of sulfur-35 (a product of nuclear reactors). Sodium alginate is a polysaccharide found in seaweed, discovered in 1968 by Dr. Stanley Skoryna's research team at McGill University of Montreal. Usually extracted from brown algae (if used as a supplement), sodium alginate all by itself selectively pulls out of the tissues—and binds in the gut, to be escorted out of the body—radioactive particles of strontium, excess barium, cadmium, and (the harmful form of) zinc. The Russians isolated the polysaccharide U-Fucoidan from Vladivostok kelp, another radioactivity detoxifier.

How To Take. The minimum therapeutic milligram dosage of iodine is obtained by eating almost 1.6 ounces of dried seaweed. For maximum protection against radiation poisoning, the Atomic Energy Commission suggests at least 2–3 ounces of seaweed a week. *Don't rinse the seaweed before using it*—you want to retain all the minerals and other beneficial nutrients! Sea vegetables contain greater or lesser amounts of sodium alginate, but you can obtain this separately as a powder or in capsules. The Atomic Energy Commission suggests taking 10 grams (2 tablespoons) a day of sodium alginate. Or, take 3 capsules 3X a day, preferably on an empty stomach, twice a year for six weeks at a time.

4. Miso

Properties. Miso is a fermented paste made from soy, sometimes with barley or rice added. (Miso made solely from soybeans takes longer to ferment.) Specialty misos are made from aduki beans, chickpeas or other legumes. Unlike unfermented soy products, properly fermented miso is healthful. In 1972, Japanese researchers found that a component in miso called zybicolin successfully helped prevent radiation sickness. Zybicolin acts as a binding agent to detoxify and eliminate pollutants, and radioactive elements such as strontium, from the body.

How To Take. For one person, bring 1 cup of water to just under a boil, and pour it over 1 teaspoon of miso (or more, to taste). *Don't boil the miso.* High heat deactivates the enzymes; let the miso slowly dissolve in the water. You can add vegetables and beef for a delicious, nourishing meal. To order clean, live miso, go to southrivermiso.com.

5. Sulfur and MSM (Methylsulfonylmethane, a Sulfur Supplement)

Properties. Sulfur, a common mineral, is involved in myriad functions: the elimination of chronic inflammation and damage due to oxidation (which makes it so good for the joints); the improvement of cell membrane permeability (thus helping to escort needed substances into the cell); normalizing insulin function; and detoxification. The liver depends on sulfur-based enzymes to do its job. Without sulfur, glutathione—an antioxidant vital to the liver (and usually, but not always, produced by the body)—cannot work. Cysteine and N-Acetyl-Cysteine are precursors to sulfur-based amino acids (the building blocks of protein). Alpha-lipoic acid is an enzyme rich in sulfur. Nuclear workers exposed to radioactive sulfur need high levels of sulfur to displace and excrete the radioactive form.

How To Take. Sulfur is abundant mostly in animal proteins: meat, fish, pastured eggs, and raw dairy (milk, cheese and especially whey) from grass fed cows. Other foods rich in sulfur include garlic, onions, cruciferous vegetables (broccoli, kale, Swiss chard, collards, cauliflower, mustard greens, Brussels sprouts), and coconut and olive oils. Even with a sulfur-rich diet, you can still supplement with MSM, which is sulfur-based. Effective amounts range from about 1.5 gm to 6 gm. Cook cruciferous veggies because their raw compounds impair thyroid function.

6. Glutathione (*L-Glutathione, the most absorbable when taken orally*)

Properties. Radiation exposure not only triggers cancer by producing reactive free radicals that damage cells, it also depletes glutathione in the body. Glutathione helps neutralize free radicals, metals, and other toxins. White blood immune cells, the lungs, and especially the liver need glutathione. Cancer sufferers given radiation suffer from less cell damage, and overall fewer negative effects, when their glutathione levels are raised prior to exposure. (Note: Radiation given as cancer "therapy" is the same substance produced by nuclear reactor fallout; see Chapter 5, **Cancer**.)

Raw Materials Required for Glutathione Production. These help the body produce glutathione on its own:

- ◆ **L-Cysteine (or N-Acetyl-Cysteine).** Amino acid found in protein-rich animal foods, including whey that's *undenatured* (cold-processed) and colostrum from grass fed cows.
- ◆ **Methionine (or L-Methionine).** Amino acid, found in protein-rich animal foods, including undenatured whey.
- ◆ **Glutamine.** Amino acid in protein-rich animal foods including undenatured whey.
- ◆ **Melatonin.** Produced by the pineal gland, melatonin regulates immunity and helps raise glutathione levels. Tart cherries contain actual melatonin. Bananas, oranges, pineapples, oats, rice, barley, and tomatoes contain serotonin, an amino acid precursor to melatonin.
- ◆ **Lipoic Acid (or Alpha-Lipoic Acid).** An antioxidant itself, it also enhances the strength of other antioxidants by recycling them. Found in meats, especially organs like the heart, liver and kidneys, and in broccoli and spinach.
- ◆ **Sulfur.** Found most abundantly in meat, fish, eggs and raw grass fed dairy (see entry #5).
- ◆ **Silymarin or Milk Thistle.** Food for the liver, this herb help raises glutathione levels.

If the Body Cannot Make Glutathione. Stomach acid destroys most oral glutathione supplements, but *reduced* glutathione (GSH) works fairly well, as does liposomal encapsulation technology (LET) glutathione. You can also inhale glutathione through a medical nebulizer, which disperses fluids into the lungs in a fine mist. (Uranium oxide and other tiny insoluble radioactive particles are airborne and tend to lodge deep in the lungs.) The Lifewave company makes glutathione patches, which deliver the compound non-transdermally when adhered to the skin.

How To Take. All are available as nutritional supplements; follow label recommendations. See #7 below, last paragraph.

7. Other Antioxidants (*Vitamins, Enzymes, Herbs, Spices*)

Properties. Antioxidants neutralize toxins and heavy metals by preventing free radicals from damaging cells and DNA. Fake foods produce free radicals (atoms with too few electrons in the outer shell to maintain stability, so which therefore seize those missing electrons by stealing them from atoms in your body). Antioxidants are in organic foods (including raw fresh produce) and are also available as supplements. They include:

- ◆ **Carotenoids: Carotenes, Lutein, Cryptoxanthin, Lycopene and Zeaxanthin.** In bright orange and red fruits and vegetables, including sweet potatoes, carrots, tomatoes, pumpkin and apricots. Also in dark green vegetables including Romaine lettuce, spinach, and broccoli (the green chlorophyll in the veggies masks the yellow pigment of the carotenoids). Note: even though some people cannot convert carotenoids (precursors of Vitamin A) into Vitamin A, the carotenoids offer a protective function on their own, so they should be consumed.
- ◆ **Vitamin C.** In most fruits and vegetables, including bell peppers, dark green leafy vegetables, broccoli, Brussels sprouts, strawberries, pineapple, kiwi, citrus fruits, tomatoes, peas, cantaloupe, and cauliflower. If taken as a supplement, make sure it's not from corn, almost all of which is now genetically engineered.
- ◆ **Flavonoids, including Catechins, Resveratrol and Proanthocyanidins.** In most fruits and vegetables, as above.
- ◆ **Vitamin E.** In sunflower seeds, almonds, spinach, Swiss chard, avocado, shrimp, olive oil, peanuts, broccoli, asparagus, winter squash, pumpkin. Natural Vitamin E contains a family of compounds: four tocotrienols and four tocopherols. A natural supplement is labeled "d-alpha tocopherol." The artificial begins with a "dl-" prefix.
- ◆ **Superoxide Dismutase (SOD, an enzyme).** In green grasses (wheat, barley), cruciferous vegetables.
- ◆ **Coenzyme Q10** (more absorbable as the supplement *Ubiquinol*). Made by the body. In meat, poultry, fish, almonds.
- ◆ **Melatonin.** See above (#6).
- ◆ **Ginkgo Biloba.** Extract from the leaf of this ancient tree confers powerful protection. In supplement form only.
- ◆ **Turmeric.** Contains the compound curcumin. Taken in powder form and sometimes as a fresh root. Used in cooking.
- ◆ **Ginger.** Fresh root or powder mixed in water also benefits digestive tract (anti-nausea). Used in cooking.

How To Take. Antioxidants can be taken in almost unlimited quantities. Most people should take less than 3 gm of melatonin. If you use ozone, take antioxidant supplements 2 hours before and 6 hours after.

8. Green Tea

Properties. From the *Camellia sinensis* plant, the leaves are steamed to prevent them from degrading. (Black tea is oxidized, fermented green leaves.) Studies from Japan and China show that green tea has radioactivity antagonists with proven radioprotective effects, whether consumed before or after radiation exposure.

How To Take. Steep it for 3 minutes or less, or else the tea will be bitter. If you're sensitive to caffeine, avoid it in the late afternoon and evening (or entirely). Make sure your green tea is organic, because the plant concentrates any fluoride that naturally occurs in the soil and you don't want to ingest extra fluoride.

9. Essential Oils

Properties. Many oils have antioxidant, antimicrobial and DNA repair properties: rosemary, mint, tulsi, oregano, tea tree, eucalyptus, tulsi, frankincense, cinnamon, and more. Keep therapeutic or food grade oils on hand. Do more research on these and other essential oils to learn their individual properties.

How To Take. Dilute in almond, olive, coconut, or other carrier oil for external use or ingestion.

10. Zeolite Powder

Properties. Zeolites belong to a class of mineral clays known as *aluminosilicates*. The aluminum in them is inactive because the heavy metal is bound in the structure of the zeolite itself and is never released. Different types of zeolite have different molecular shapes, but all of them remove toxins through the process of *adsorption*, or the mechanical adhesion of two different materials. The honeycomb-like zeolite molecules act like a cage, capturing the atoms, ions (including free radicals), and molecules of dangerous materials. These materials include heavy metals (aluminum, arsenic, cadmium, lead, mercury and tin), pesticides, herbicides, and other contaminants. All adsorbed materials, as well as the zeolite, are eliminated from the body in under 8 hours. Note that after the Fukushima nuclear disaster, bags of zeolite were dropped into the seawater near the power plant to adsorb the radioactive cesium.

A combination of zeolites, sea minerals, dehydrated seaweed, spirulina, and chlorella can help eliminate the majority of cesium isotopes, including cesium-137. People suffering from cancer, who need to eliminate *Candida* and mold toxins, and who have infectious conditions, can all benefit from using zeolite. Clays are also helpful.

How To Take. For internal consumption, you need food grade zeolite. Finely powdered zeolite is better than coarse. Some people are selling zeolite liquid, claiming that it adsorbs more than the powder. This isn't true—you pay much more for less if you purchase the liquid, so buy the powder. Zeolite is sold in health food stores and on the Internet. Follow the directions on the bottle. Some people take several tablespoons a day, away from food.

11. Homeopathy

Remedies counteract ill effects of radiological tests such as X-rays and CT scans, so they might help with other radioactivity too. Take 1 to 3 hours prior to exposure, and another three doses after exposure, about 8 hours apart.

If exposed to radiation fallout: For all remedies, if a 30C potency is unavailable, use any potency, taking more frequent doses for lower potencies (4 to 6 times a day) and a less frequent dose (1 to 2 times a day) for higher potencies.

- ◆ **Phosphorus.** Often the first remedy needed after radiation exposure. To reduce pain and intensity of skin burns, and to lessen vomiting and other gastrointestinal upset. People who need Phosphorus are often thirsty for cold water, which is vomited when it becomes warm in the stomach.
- ◆ **Cadmium iodatum.** For "chemo" radiation, the kind that is delivered to people with cancer. Helps with nausea and vomiting, exhaustion, and feelings of being chilled.
- ◆ **Cadmium sulphuricum.** Also considered a primary remedy. For itching, vomiting, diarrhea, feelings of being chilled, hair loss, and severe flu-like aches and pains in the muscles. Do not use if you are taking Homeopathic X-ray (next).
- ◆ **Homeopathic X-ray.** For itching, gastrointestinal symptoms such as vomiting and diarrhea, feelings of being chilled, and severe flu-like aches and pains in the muscles. Do not take if taking Cadmium sulphuricum (above).
- ◆ **Radium bromatum.** For severe aching and arthritic pains made better from movement, as well as skin sores, ulcers, acne-like pustules, and sores that are slow to heal.
- ◆ **Strontium carbonicum.** For shock, hemorrhage, oozing of blood, faintness, constriction, and pain.
- ◆ **Combination remedy.** Contains many types of radiation. Different combination formulas made by various manufacturers are available from celleech.com and other sources.

IMPORTANT! There are many remedies for radiation poisoning, so please seek guidance from a homeopath who can help you find the right substance, potency, and frequency of dose that you need.

- ◆ *Algae Family.* Seaweeds, spirulina, and broken cell wall chlorella contain high nucleotide levels. The sea vegetables also contain high amounts of iodine. (As most algae contain a B12 analogue, eat red meat and take B12 supplements hours away from eating algae.)
- ◆ *Grass Fed, A2 Milk Products.* Whey protects the liver by providing some of the basic materials that the body uses to produce glutathione. Raw butter may help protect cell membranes. Some people can't tolerate (if they can even obtain) dairy, so monitor how you feel.

For more suggestions, see Insert, page 454, "Protection from Radiation: General Guidelines." This is an outline; see a qualified health professional for your unique needs.

Pathogens and Their Toxins

Pathogens and illness are inseparable in most people's minds. Pathogens do cause disease, but many of the symptoms we experience are from the waste they produce. This "waste" is none other than bacterial, fungal, parasitic, and viral excrement.

The more these pathogens proliferate, the more waste they produce; so it's important to eliminate them. Rife Therapy will help kill or disable the pathogens, but most of the time there will be a huge toxic overload for the body to excrete. This is why detoxification and elimination protocols are mandatory when rifeing.

Digestive Health

The Brain in the Gut

For the most part, we humans are self-contained. Our skin encloses and protects everything that's inside us—blood, bone, organs, glands, muscles, nerves—from external assaults. But the digestive tract is unusual. It's the only part of the body that is not sealed off from the environment. From top to bottom, from the open mouth to the rectum, the entire digestive apparatus is one long, meandering, variously-shaped pipeline that's open to the outside world.

Digestion is a combination of mechanical and chemical action on food. Food is pushed and squeezed along the digestive tract via peristalsis, a series of rhythmic, wavelike muscular contractions. After our food is chewed and mixed well with saliva, it enters the stomach, which mashes it into liquids and fine particles. Then the food reaches the small intestine, where the majority of the nutrients are whisked into the bloodstream through the villi, which are small hair-like projections in the intestinal lining. Some of the liquid passes through to the large intestine, but most of the remaining unusable material is insoluble fiber, pushed out the rectum as feces (stool).

Our digestive organs do a lot more than process food. In 1996, the chair of the department of anatomy and cell biology at New York City's Columbia University called the gut "the second brain," which is part of the enteric nervous system. Separate from the more familiar central nervous system, the *enteric nervous system* is located in the lining of the esophagus, stomach, small intestine, and colon. This lining contains receptors for the same neurochemicals that are usually associated with the brain and central nervous system. Anyone who has ever experienced nervousness or anxiety is familiar with the feeling of a fluttery stomach, known colloquially as having "butterflies in the stomach." The vagus nerve, the longest cranial nerve in the body and responsible for regulating many involuntary functions (including those in the heart), is also what causes the "butterflies." *Vagus* means "wandering" in Latin. And wander it does. Containing about 100 million neurons—more than the amount in either the spinal cord or the peripheral nervous system—the huge, long vagus nerve runs down the brain stem to the wall of the colon, where it's embedded and interfaces with the heart, esophagus, lungs, and digestive tract. About 90% of the fibers in the vagus nerve relay information from the gut to the brain (although not in the opposite direction). This little brain in the gut, with its mass of neural tissue, is largely responsible for our psychological state on a non-rational, emotional, reactive level. With an abundance of "gut feelings," it's easy to understand how difficult emotional states and stressful mental conditions can negatively affect digestion—and vice-versa.

Digestive Aids

After food is eaten, its transit time should be about 17 hours or less (if the meal was raw fruits and vegetables) or about 24 hours (if the meal contained animal products). But in many people, the peristaltic activity is uneven or sluggish, which causes the food to move too slowly.

There are many ways in which our digestive apparatus can malfunction. If the stomach does not produce enough hydrochloric acid, proteins are not completely digested and they leave the small intestine as unassimilated particles that circulate throughout the bloodstream. These particles may irritate joints and soft tissue (common symptoms of arthritis), or cause other symptoms that we may refer to as allergies. If the small intestine does not receive enough pancreatic juice from the pancreas to digest starches, the food sits there rotting, causing bloating and flatulence. If the colon is riddled with *Candida albicans*, ultimately long tendrils of the fungus will perforate the intestinal lining, allowing toxic waste material into the bloodstream. This condition is known as *leaky gut syndrome*.

Inviting Friendly Flora Home

You may think that you are the only consciousness inhabiting your body, but that's not true. You have (or should have) up to 500 different kinds of beneficial bacteria in your gut, one hundred trillion of them—ten times more bacteria than there are cells in the body. These friendly flora don't refer to the girl next door. They are part of the *microbiome* in the intestinal tract that colonize us in a mutually beneficial relationship. Unlike the harmful bacteria that we don't want, these flora are indispensable. They nibble on our meals (favoring inulin, a fiber in Jerusalem artichoke, and chicory), but they give much more than they receive.

In the large intestine, flora manufacture butyrate (a short-chain fatty acid that improves insulin sensitivity and increases energy), B12 (essential for the nerves, and not present in many foods), and Vitamin K (which helps clot blood and build strong bones). Friendly flora prevent toxins from being reabsorbed. They recycle bile. They boost the activity of immune cells and train them to recognize invaders. They produce anti-inflammatory compounds. And they do housecleaning. They stimulate the production of fluid (which helps move waste out of the body) and break down our unused food into fecal material (which we then excrete). Some flora even amplify the positive effects of other flora.

Incredibly, gut flora manipulate our behavior and mood! They do this through the various neural signals they send to the vagus nerve (which connects the gut and brain), and through the chemicals they produce (which make us feel good or bad). They alter our taste receptors so we eat what *they* want to eat. This helps determine our metabolism. Our health issues, ranging from diabetes to obesity to autism, depend to a large extent on which microbes inhabit our intestines.

Without the beneficial bacteria, we eventually suffer from some digestive disturbance—bloating, gas, heartburn, diarrhea, constipation, nausea, vomiting—or perhaps inflammation, which can lead to irritable bowel syndrome (IBS), Crohn's disease, and colitis. If you have these inflammatory conditions, or take antibiotics, the gut needs to be repopulated.

Just a sample of friendly flora includes *Lactobacillus acidophilus*, *bulgaricus*, *casei*, *reuteri*, *rhamnosus*, *plantarum*, *salivarius* and *sporogenes*; *Bifidobacterium bifidum*, *infantis* and *longum*; *Streptococcus faecium*; *Streptococcus thermophilus*; and *Lactococcus lactis*. The more and varied friendly flora that reside in our gut, the less room there is for unfriendly bacteria, such as *E. coli*, *Clostridium*, *Candida*, and *Proteus*. A few unfriendly flora are sometimes touted as beneficial. The pleomorphic bacterium *Lactobacillus licheniformis* (also called *Bacillus licheniformis* or *B. licheniformis*)

has been isolated from canine mammary tumors by a British researcher. Some scientists, including Rife researcher Jeff Sutherland, PhD, have shown that *Bacillus licheniformis* morphs into the cancer virus. Despite this, *B. licheniformis* can be found in some intestinal culture supplements and even a few dog foods. A representative of one popular company told me that while *Bacillus licheniformis* itself does not appear in the formula, it is used to produce the formula. To me, including even some of its residue doesn't seem wise.

Another potentially problematic bacterium in some probiotic formulas is *Enterococcus* (or *Streptococcus*) *faecalis*, linked in children to Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcus (also known as PANDAS). In immune-compromised persons, the bacterium—mistaken by the body for a more dangerous form of *Strep*—can trigger immune cells to attack the person's own brain tissue. This is why many PANDAS ailments range from obsessive-compulsive disorder to Tourette's syndrome. The potential of pathogen involvement in psychological issues is a good reason to use Rife Therapy.

Food sources of friendly flora are yogurt and kefir, and non-dairy vegetables such as sauerkraut, pickles, and kimchee (a spicy Korean sauerkraut with hot peppers). All of these vegetable foods must be naturally fermented and raw (unheated), so that the beneficial bacteria as well as enzymes remain intact.

What about probiotic supplements? Flora thrive in a pH between 6.5 and 6.9. The stomach at rest has a pH of 3.0, which can lower to 1.5 during a meal due to increased hydrochloric acid production (especially if the meal contains animal proteins). Therefore, according to colon therapist Victoria Bowmann, PhD, even orally ingested probiotics that are enterically coated to bypass the stomach acid will not be completely utilized by the body. If you want to take probiotics orally, do it on an empty stomach. If you want to repopulate the colon more quickly, Bowmann suggests *reflorastation*, or *infusion*, which is done on an empty bowel (optimally, after a plain water colonic or enema). Infusions can be administered with an enema bag, a bulb syringe, or even a dedicated turkey baster. Mix as many kinds of probiotics as possible into lukewarm water (preferably a bit acidic, between 6.5 and 6.9), squirt the fluid into the colon, and hold it for at least an hour. A good time for an infusion is just before bedtime.

Most people prefer taking probiotics in supplement form. However, no matter what way you choose to welcome friendly flora as your permanent guests, make your colon hospitable to them at all times. You need these flora as much as they need you—probably more.

Sugar is the food of choice for the yeasts and their more virulent fungal forms when the overpopulate the intestines. When the sugar-fed fungi proliferate, they overpower the friendly intestinal flora, and our ability to assimilate nutrients becomes impaired. A stressed digestive system leads to unbalanced gut ecology—and disproportionately high numbers of unwanted bacteria that cause disease. The gut bacteria should be at least 85% beneficial. (For more information, see Insert on page 459, “Inviting Friendly Flora Home.”)

Many of the so-called colon cleansing herbs actually target the stomach and small intestine, helping to improve digestion. Safe, effective herbs include peppermint, ginger root, and dandelion root. For people over 35 years old, who produce fewer digestive enzymes, it's prudent to take supplements to assist with digestion (discussed earlier in this chapter).

Colon Restoration

Sometimes, people are embarrassed about toilet functions. But the health of the colon is vital for overall health. The colon, which is the lowest portion of the digestive tract and the channel through which waste exits, is also known as the large intestine or bowel. The colon's sole purpose is to remove waste (generally insoluble fiber) that the body cannot use as nourishment. The bowel itself does not have the ability to render any materials harmless (which is the strict definition of “detoxification”). Most of the body's detox occurs in the liver, which sends toxin-filled bile into the colon, where it's then removed.

Waste from the colon is initially fluffy, but it loses water as it travels along. By the time the waste exits the descending colon, it's shaped. Stool should be uniform, thick like a hot dog and without kinks. Stool emerging in thin ribbons indicates restrictions, a compressed and

Herbs and Other Natural Substances to Eliminate Parasites

Parasites, worms, and amoebas steal your nutrients, unbalance the intestinal flora, and can cause cramping, bloating, constipation, diarrhea, excessive hunger, food cravings, blood sugar fluctuations, overweight or emaciation, skin rashes, itchy mucous membranes—and even mental fog, emotional volatility, and insomnia (due to their effects on the nervous system). Parasites are acquired through contact with an infected person or animal, contaminated water, or improperly washed or undercooked food. Even if parasites are eliminated, the tissues of the intestinal tract (and in some cases, organs) must also be rejuvenated and healed from the damage inflicted by the parasites.

The following herbs, spices, and foods have been successfully used in various anti-parasite formulas. No single ingredient deals with everything, so combination formulas are necessary. Various formulas are made from:

- ◆ **Black Walnut** (green hulls and sometimes the leaves). Kills adult parasites. Also is antifungal.
- ◆ **Clove** (bud). Dissolves some parasites and their eggs. Also is antibacterial, antiviral, and antifungal.
- ◆ **Diatomaceous Earth** (ground-up powder of fossilized, one-celled sea creatures called diatoms). Used in insect control, the minuscule, razor-sharp edges of the powder coats and pierces the exoskeleton of the insects and parasites it contacts. *Food grade* DE can be taken internally, although it's not safe to inhale for obvious reasons. It destroys both the adults and larvae in the intestinal tract. Ingested, it's safe for humans, pets, and livestock.
- ◆ **Fennel** (seed). Mildly laxative to humans and irritating to some parasites. Helps remove their wastes.
- ◆ **Garlic**. Better raw, but even cooked it can help. Is also antibacterial, antiviral, and antifungal. People with garlic in their bloodstream suffer from fewer mosquito bites. A raw garlic clove can be inserted into the rectum.
- ◆ **Male Fern** (root). Immobilizes parasites, preventing them and their eggs from adhering to the intestinal tract walls. Also works for outside the digestive tract. Very effective; mandatory in all good formulas but toxic in excess.
- ◆ **Mimosa pudica**. Ayurvedic herb from India reported to be thirty times more powerful than pharmaceuticals.
- ◆ **Sage** (leaves). Contains relatively high levels of thujone, the same ingredient in wormwood that kills parasites.
- ◆ **Senna**. A powerful laxative that should not be used long-term, senna is used in conjunction with other parasite-killing herbs because it promotes peristaltic action that helps expel the parasites. Senna also repels the worms.
- ◆ **Tansy**. Highly toxic to worms, it's used to both repel and expel parasites. In excessive amounts, it may cause spasms, convulsions, and hallucinations in humans.
- ◆ **Thyme**. Toxic to hookworms, roundworms, threadworms, and skin parasites (as well as some bacteria and fungi).
- ◆ **Wormwood**. The leaves and flowers are used. Kills roundworms, hookworms, whipworms, pinworms, and their larvae. Mandatory in all formulas. Also has strong antimicrobial properties.

contracted colon wall. The colon can be contracted due to emotional distress or not enough intestinal flora to help break down the debris. A true blockage prevents feces from exiting the body entirely, and requires immediate medical attention.

Many people mistakenly use the phrase “colon cleansing” when they are actually addressing (via herbs and other protocols) other areas of the digestive tract. The stomach breaks down food, and the small intestine funnels the nutrients into the bloodstream. Often, the part of the digestive tract that malfunctions the most is the colon. Its many pockets can become irritated, to which the body responds by producing mucus. The colon can also become distended. The breakdown of waste can produce even more poisons, which leak into the lymph and bloodstream. These toxins encourage parasites, protozoa, and worms to thrive in the mucous membranes that line the large and small intestines.

When too much fecal material is forced through a small opening, constipation develops. This overly narrow passageway can cause blood vessels lining the colon to break, a condition called *hemorrhoids* when it occurs at the anal opening. Constipation may also clog the ileocecal valve, the one-way shutter between the small intestine and colon designed to prevent waste from shifting from the colon back into the small intestine. Usually, when this clog occurs, the valve is stuck open (rather than shut). This poisoning can cause systemic toxicity.

A malfunctioning colon affects other systems. The lymphatic fluid is designed to pick up toxins from the colon and process them so the body can remove the waste. But excess mucus in the colon can overwhelm the lymph channels and impair the body’s immune function. This can occur anywhere in the digestive tract.

Foods. Mostly, it’s chemical-laden fake “foods” and refined grains that clog the digestive tract. Stripped of its fiber, the pure starch sticks to itself—and plugs up the colon wall. (This attribute of white flour has spawned an entire craft industry of sculptures made from white bread.) However, the bran and germ from whole grains can also cause many health problems (see **Food** earlier in this chapter). This is why the best fiber to keep matter moving is from high-cellulose vegetables, especially leafy greens and stalks like lettuces, kale, spinach, chard, and celery. Of the fruits, pectin-rich apples and especially berries help. Wild rice (which is actually the seed of a North American marsh plant) works very well. If your colon isn’t healed enough to accommodate raw fruits and vegetables, eat them cooked. Alternatively, juicing raw vegetables provides valuable nutrients and gives the digestive tract a rest from trying to manage all that fiber.

Herbs. Herbs are most often used to settle an upset stomach or induce the excretion of feces. Herbs used for the digestive tract are typically called *laxatives*, but there are distinctly different types. Actual laxatives (called *cathartic laxatives*, *stimulant laxatives*, *purgative laxatives* or simply *purgatives*) include *Cascara sagrada*, rhubarb, senna, castor oil, and the outer portion of the aloe vera leaf. They induce peristalsis by stimulating the colon nerve endings with irritating chemical compounds that force the bowels to evacuate. Although useful for emergencies, laxatives should not be used regularly because they can overstimulate and eventually damage the colon nerves, making it difficult for the colon to function on its own. These substances might also stress the liver.

Stool softeners (sometimes called *lubricating laxatives*) on the other hand—such as bentonite clay and powdered slippery elm bark—make the fecal material soft and slippery, allowing for easier evacuation. As they soothe and heal the inflamed mucous membranes that line the colon wall, they can be used as often as desired. The effects of *bulk-forming laxatives*, such as fibrous flax and psyllium seeds, aren’t as harsh as purgatives but are more rigorous than gentle stool softeners. The seeds absorb so much fluid that they swell to many times their size, thus pushing out other waste as they leave the intestines. They must be consumed with plenty of water to avoid the problem of constipation. In sensitive people, bulk-forming laxatives can cause gas and bloating, so they should be used with care.

Other herbs used for the colon include white oak bark (to tighten the colon wall), and fennel root and seeds (to relieve colic, gas, nausea, abdominal cramping, and accumulations of mucus). Ginger root, which very effectively eliminates gas and nausea, is safe enough to use during pregnancy. Plus, its flavor makes it wonderful to use in many types of cooking. For parasite control, see Sidebar, “Herbs and Other Natural Substances to Eliminate Parasites.”

Colonics and Enemas. To remove restrictions from the colon, normalize its shape, and help restore peristaltic motility, practitioners may recommend *colon irrigation* or *colon hydrotherapy*, usually simply called a *colonic*. A colonic is like an enema (discussed in a moment), except that it reaches higher into the colon. These practices are not new. Enemas were referenced in the 2000-year-old Dead Sea Scrolls—a collection of texts found inside Israeli caves, about a mile from the West Bank of the Dead Sea—and in a third-century Aramaic manuscript. In some areas of the United States colonics are illegal, so instead of seeing a colon therapist you may have to give yourself an enema.

To receive a colonic the subject lies on a table, wearing a loose gown open at the back. A trained professional, using special equipment, gently inserts, into the rectum, a tube attached to a water tank. When a valve is opened, water flows into the descending colon, across the transverse colon (horizontal at the navel), and through the ascending colon if possible. When the abdominal area gets too full or uncomfortable, the water leaves the tube, out through another attachment leading to a drain. The water in the colon—perhaps combined with other substances such as chlorophyll, wheatgrass juice, ozone or probiotics—mechanically dislodges waste. To help expedite the passing of waste, the colon therapist should massage not only the belly but also the outside of the thighs, which contain reflex points for the colon and thus stimulate peristaltic activity.

Many accounts of colon therapy that I have read mention the expulsion of long strings of mucus, unbelievable lengths of once-impacted fecal material, *Candida albicans*, parasites, and even whole worms, due to the mechanical loosening of the impacted junk off the wall of the colon. Keep in mind that not every colonic produces such dramatic visuals. However, even in the absence of such exotic materials, be assured that waste is being removed. The late medical researcher Dr. Norman Walker describes how his clients who received colonics eliminated colds, the flu, backache, asthma, poor eyesight and hearing, prostate trouble, allergies, thyroid deficiency and diabetes, as well as digestive disturbances.

Considering the prevalence of digestive disturbances—and that reflex points across the entire colon correspond to different body systems—it makes sense to take good care of your colon. If you can't find a qualified colon irrigation therapist, you can at least irrigate the lower bowel by giving yourself an enema. An enema bag and enema tube (which comes in various lengths and diameters) can be purchased at better drug stores and even online. Purified water is used for the enema. The colon's optimal pH is slightly acidic, between about 5.5 and 7.0 (which is neutral), so you can use slightly acidic water.

You can add the same ingredients to the enema water that colon therapists use in the colonics they administer. If you have an ozone unit, make fresh ozonated water for your enema. The ozone will kill harmful microorganisms while leaving the friendly flora alone. Ozone should not be combined with other ingredients because it may neutralize or interact with them in ways that you don't want.

It is inhumane, in my opinion, to force people who have a genuine medical need for coffee to wait in line behind people who apparently view it as some kind of recreational activity.

—Dave Barry,
humorist, author, journalist,
and Pulitzer Prize winner
(born 1947)

Many people use coffee for enemas. The first reported case may have been in the December 1866 issue of the *Pacific Medical and Surgical Journal*, in which Dr. M.A. Cachot described administering a coffee enema to successfully treat a child who was dying from an accidental poisoning. In 1896, Dr. W.J. Mayo (a founder of the famed Mayo Clinic) mentioned using coffee enemas routinely for people who had undergone abdominal surgery. Medical and nursing textbooks of the early 1900s advised coffee enemas as a treatment for shock. And in 1941, in the Uruguayan Medical, Surgical and Specialization Archives, Dr. Carlos Stajano described how people regarded as terminally ill—including one with cocaine poisoning and another with post-operative shock—immediately improved after being given coffee enemas. There's even an account that a coffee enema, administered to a soldier in pain, was used by a nurse during World War I. No painkillers were available, and coffee was the only liquid she had. The soldier was reported to experience deep, long-lasting relief. Somewhat later, German medical doctor Max Gerson (who had heard

about coffee enemas when serving on the front lines during World War I) began administering them to every cancer sufferer under his care. All of them had been dying, but became well after receiving the enemas. Gerson later founded clinics all over the world that utilized raw vegetable juices and other natural protocols along with coffee enemas. Significantly, in all of its editions between 1899 and 1977, the well-known medical textbook *Merck Manual of Diagnosis and Therapy* provided instructions on how to administer a coffee enema, after which this information no longer appeared. (Dr. Stanislaw Burzynski was reportedly told by a *Merck Manual* editor that the space was needed for other information.)

More contemporary practitioners who have routinely used coffee enemas include Austrian oncologist and surgeon Peter Lechner; Dr. Martin Heubner of Goettingen University, Germany; American dentist William Kelley, who saved thousands cancer sufferers; his student, the late medical doctor Nicholas Gonzalez, staff member of a cancer hospital in New York City until he concluded that holistic methods were better; and New York City-based Dr. Linda Isaacs, who used to be Dr. Gonzalez's partner.

How does a coffee enema work? Let's compare it to how the body detoxifies on its own. It's the job of the liver to transform contaminants into harmless substances. The problem is, it takes four stages for the liver to completely

neutralize most of these toxins, and different nutrients are involved in each of the four detox stages. During either Phase I, II or III, a metabolite could be produced that's even more dangerous than the original material. So, until the fourth stage is completed, poisons (albeit different ones) are recirculated through the bloodstream, during which time the person can become toxified all over again. A coffee enema, however, eliminates the need to wait until all of the metabolites are rendered harmless. The volatile oils travel through the capillaries of the rectum into the portal vein, a major blood vessel higher up in the colon—*directly to the liver itself*. The digestive tract is bypassed entirely (which is why the same results cannot be obtained by drinking the coffee).

The oils in coffee produce many beneficial changes. The caffeine stimulates the liver to make more bile. (Bile is made regularly by the liver and breaks down dietary fat.) Caffeine dilates the bile ducts and galvanizes the liver and the gallbladder (which houses the bile) to release stored toxins. The palmitic acids in the coffee stimulate the discharge of bile into the duodenum (the first section in the small intestine), where the toxins are discharged into the digestive tract and eventually excreted with the feces. Because the toxins don't recirculate through the bloodstream, they don't have to undergo any additional chemical changes by the liver, and their presence doesn't tax any of the other organs of elimination.

This is why an enema has very few detox effects such as headaches, runny nose, sore throat, or aches and pains. All of the poisons are instantly diverted to the lower digestive tract, where they're removed quickly and efficiently.

Other oils in the coffee have beneficial effects too. Theophylline and theobromine dilate blood vessels and counter inflammation of the gut. And the fat-soluble compounds kahweol and cafestol enhance the activity of glutathione S-transferases, some very important detoxification enzymes that neutralize a large variety of toxic compounds (including free radicals). The toxins are bound to the glutathione compounds by the bile, so instead of being released they're excreted.

Some practitioners report that their clients enjoy better moods and mental clarity as well, perhaps due to the reported ability of coffee (*only* when in the colon) to relax the fight-or-flight sympathetic nervous system.

To make a coffee enema, you'll need the following:

- ◆ *Enema bag or bucket.* The bag should have a hole to accommodate a hook, which you will hang.
- ◆ *Hoses.* The first hose attaches to the bag or bucket. The second, which attaches to the first, should be around 35 to 40 inches (about 89 to 102 cm) long, and under 3/8 of an inch (about 0.95 cm) in diameter.

Many people prefer a tube that's 1/4 inch (0.635 cm) in diameter. The tube should be soft, flexible, and thin enough so that it can be pushed fairly high up into the colon. It also should have a smooth, tapered tip, which makes insertion easier and more comfortable.

- ◆ *Clamp.* Attaches to a hose to prevent coffee flow.
- ◆ *Lubricant.* Water-based aloe vera, coconut oil, olive oil, or something similar for the hose.
- ◆ *Paper towels and trash basket.*
- ◆ *Coffee.* Use only up to 4 tablespoons of coffee per day, no matter how many enemas you do.
- ◆ *Clean filtered water.* Use between 1 and 2 quarts (or liters) of pure, filtered water for each enema.
- ◆ *Pot.* To boil the coffee, a glass or ceramic pot is preferable; but you can also use stainless steel. It should hold from 1 to 4 quarts (or liters), depending on the amount of coffee you use for your enema.
- ◆ *Strainer.* This should have a fine mesh, because you'll be using it to strain the coffee grounds from the water.
- ◆ *3% Food Grade Hydrogen Peroxide in Spray Bottle.* This cleans the hose and your hands after each insertion, as well as the tiled area when you're finished.
- ◆ *Molasses* (optional, but very helpful). If you find that you have difficulty holding the coffee in your colon for longer than 4 or 5 minutes, add 2 tablespoons of molasses to the strained hot coffee. The molasses is harmless and won't be absorbed into the bloodstream.

It's easy to prepare an enema. Put the coffee and water into a large glass, enamel or stainless steel pot. After the water starts to boil, lower the heat and let it simmer for about 15 minutes. Strain the grounds. Let the coffee cool enough so that the liquid is comfortably warm, but not hot, by the time you do the enema. Pour the coffee into the enema bag.

The enema is best done in the bathtub so you can lie down. Hook the enema bag onto the showerhead or shower curtain rod; the bag needs to be higher than your head so the solution can flow down the hose. Open the clamp and let the coffee run out a little bit to get air out of the hose; then clamp the hose shut. Lubricate a few inches of the hose that you'll insert into the rectum (once it slides in, the rest of the hose will follow). Lie on your *left* side in a fetal position (right leg on top of the left), the easiest position for tube insertion. Insert the lubricated tube as high in the colon as it will go (don't force it). Open the clamp, let your colon fill until you're comfortable,

and shut the clamp. If you decide to remove the hose immediately (optional), you can spray it with hydrogen peroxide and wipe it with a paper towel. Lie on your back and massage your abdomen to help break up deposits; and then turn on your right side. Retain the liquid for 15 minutes if possible. When you need to evacuate, sit on the toilet. You may need to remain there for awhile to expel all the fluid and the waste that has been lining the colon walls. Repeat several times until the coffee is gone.

Many people cannot hold coffee in their colon for even five minutes. Two tablespoons of molasses put into the very hot fluid after the coffee grounds have been strained will help with retention. Hot coffee will dissolve the molasses better (stir well), but let the fluid cool to a comfortable temperature before inserting the hose.

The coffee you use should be organic—you don't want to deliver pesticides straight to the organ that's trying to detoxify from those very compounds! The caffeine is mandatory; don't buy decaffeinated. And use regular, not instant. Any coffee can harbor mold, so make sure that what you're using is clean. Coffee enema proponents differ as to whether the coffee beans should be heavily roasted (dark) or unroasted (green). Those who prefer roasted may want to purchase Scott Wilson's organic gold roast coffee, as it has been processed to produce very high levels of caffeine and palmitic acid (which you want for an enema). Wilson supplies coffee to some well-known holistic clinics. You can purchase it online at sawilsons.com.

Colonic irrigations—or even milder, self-administered enemas—are not suggested for people with inflammatory conditions of the colon, which may manifest as copious rectal bleeding, fissures, polyps or severe hemorrhoids; perforations in the colon; or a prolapsed rectum. Also, don't do a coffee enema if you have eaten a large meal within the last two hours; if you have a coffee allergy; if you have pain, even when lying on the right side; or if you have pain in the lower right quadrant of your abdomen (this can indicate appendicitis). For other individuals, colonics and enemas are not recommended because of a possible emotional component. Not everyone is comfortable having a tube placed high into the rectum, or the feeling of water flooding the colon. They might perceive this as invasive, especially if there is a history of forced enemas, physical beatings, or sexual abuse.

Practitioners differ as to whether coffee enemas have any ill effects when done over a long period of time—say, two a day, every day, for a year or more. Those who are used to working with coffee enemas say that there are no disadvantages whatsoever, and emphasize their safety and effectiveness: for example, Lawrence Wilson, a medical and nutritional consultant in Arizona, US,

flatly states that coffee enemas do not deplete the body of either electrolytes or beneficial intestinal flora. Other practitioners, taking a more moderate approach, recognize the benefits but still suggest doing coffee enemas only for as long as absolutely necessary. Still other practitioners, wary of doing coffee enemas at all, make unsubstantiated negative claims. I think that coffee enemas can be helpful as long as you don't become too jittery. If this occurs, use less coffee. Some people who react negatively to coffee if drinking it can do coffee enemas if the solution is very dilute. Everybody reacts differently, so pay attention to how you feel.

Liver and Gallbladder Detoxification

Liver/Gallbladder Function and Physiology

The liver is the largest detoxification organ in the body—and the only organ, besides the skin, that can regenerate if a portion is missing. Among other functions, the liver breaks down toxic compounds into harmless ones. It does this in four stages. However, during the first detox phase the liver may create *metabolites*, substances that are even more toxic than the original compounds. Therefore, all four phases of chemical transmutation must be successful (otherwise, the liver is blocked). For all four phases to be successful, the liver must receive a wide range of vitamins, minerals, amino acids, and other nutrients.

Another major job of the liver is to secrete bile, a greenish fluid that emulsifies fats and encourages peristalsis. The liver can produce only a small amount of bile at a time, so all the bile it makes is stored in the gallbladder until the bile is needed. Fats in the digestive tract signal the gallbladder to release the bile that it's holding.

When the liver is blocked or sluggish, its detoxification job suffers. Blockage may also mean that bile flow is greatly reduced (which may cause constipation and the inability to digest fats). One of the most common causes of blockage in both the liver and gallbladder is stones, also known as gallstones. Stones that obstruct the liver, gallbladder, and bile ducts substantially interfere with one's quality of life. These stones can become such a major problem that if they are not softened and pushed out of the body, they might have to be surgically removed. The way gallstones are often removed is to have the gallbladder removed! But this doesn't stop the stones from forming; the person is merely eliminating one of the containers that houses the stones. The liver-gallbladder cleanse on the facing page is a safe, effective way to eliminate stones.

Less common problems with the liver include major infections (such as hepatitis) and degeneration, which is usually due to poisoning from chemicals and alcohol.

Liver–Gallbladder Cleanse

Introduction

Physiology. The liver contains many biliary tubules that deliver bile to the gallbladder through the bile duct. The attached gallbladder stores bile because the liver cannot make large amounts at one time. Fats trigger the gallbladder to empty bile into the small and large intestines. In many adults and even children, the biliary tubules are loaded with gallstones that cannot be seen on gallbladder X-rays because most stones are too small and don't contain calcium (visible to X-rays). Also, the worst stones tend to be in the liver. As stones multiply and enlarge, four problems occur: The pressure on the liver prevents it from producing enough bile and the bile duct becomes more blocked. The liver cannot detoxify poisons such as solvents and parasites. Cholesterol levels may rise due to impaired liver function. And the porous gallstones can pick up bacteria, viruses and parasites that pass through the liver, which causes infection.

The Stones. There are many types of gallstones, most of which contain cholesterol crystals. The crystals can be black, red, white, tan, or bile-coated green. The late Dr. Hulda Clark observed many stones imbedded with what might be the remains of flukes. Other scientists have found clumps of bacteria at the center of each stone—suggesting that the body forms stones for protection, similar to how an oyster creates a pearl around an irritating grain of sand.

Some wonder if the residue from these cleanses is food rather than stones. Clark pointed out that food residue sinks, but gallstones float because they contain cholesterol. The concentric circles and crystals of the eliminated cholesterol exactly match textbook pictures of gallstones. Some soft, waxy, floating cholesterol crystals do not form into round stones, but they *would* eventually harden if allowed to sit in the liver and bile duct.

Effectiveness of This Cleanse. Establishment medicine claims that gallstones are rare; that they aren't linked to allergies, digestive upset or impaired liver function; and that removing the gallbladder eliminates the problem. These beliefs conflict with how the body actually works. Dr. Clark observed that even with the gallbladder removed, people eliminate green, bile-covered stones with this cleanse. This cleanse painlessly removes most stones, gravel, crystals and other debris from the liver, gallbladder and bile ducts, which helps the liver more efficiently purify the blood.

Each liver cleanse is sometimes observed to “cure” a different set of allergies, suggesting that the liver could be compartmentalized, with different duties allocated to different parts. This cleanse alleviates pain in the upper back, shoulders, and upper arms. It also tonifies the intestines. The colon may be sluggish due to inadequate bile secretion. If stones are blocking the bile ducts, there won't be sufficient bile; so eliminating stones could help restore colon function. Many practitioners observe improved digestion in people who do this cleanse. Also, after a series of cleanses, it's not uncommon for people originally scheduled for gallbladder surgery to not need it!

People who do this cleanse every month report passing fewer and fewer stones with each successive cleanse. Dr. Clark stated that a person may have to pass up to 2000 stones over a year-long period before the liver is clean enough to eliminate allergies and body pain. Symptoms, which may diminish or disappear, might return as stones from the rear of the liver travel forward. However, the reappearance of symptoms is temporary.

Preliminary Preparation (optional). (a) Before you do this liver-gallbladder protocol, consider an herbal kidney cleanse. The kidneys filter substances that don't belong in the bloodstream or aren't needed. (b) For two days prior to the cleanse, and/or on Day 1 of the cleanse at 3:00 p.m., you may give yourself coffee enemas (see Chapter 3) to clean the colon and stimulate liver function. (c) Some sources suggest drinking one quart a day of unfiltered apple juice for three days before the cleanse, because the malic acid in apples helps soften and flatten the stones that will be released. I think this is a very bad idea, because apples are abundant in fructose—the very sugar that the liver has problems handling (see Chapter 3)! It's wiser to take malic acid capsule supplements.

Cleanse Days. Choose 36 consecutive hours when you have access to a toilet and can rest. Don't take nutritional supplements not specified here, or medications (unless your doctor tells you to). Otherwise, success could be hindered. On Day #1, don't eat fat. Eat fruit, vegetables, non-glutinous grains, protein powders, or (in the early morning only) steamed chicken or white fish. This allows bile to accumulate and build pressure in the liver, which pushes out stones.

If Problems Develop. Most people find this cleanse to be safe. However, if you feel pain from your torso to your throat, there might be a gallstone stuck in a bile duct. (Dr. Clark said that the appearance of clay-colored stool also indicates bile duct blockage.) To relax the spasms of the bile duct, take a heaping tablespoon of Epsom salts in $\frac{3}{4}$ cup of water on an empty stomach. The bile duct should relax within 20 minutes. If it does not relax and you still feel symptoms, immediately consult a holistic professional familiar with liver cleanses. Spasms may indicate the presence of parasites.

This cleanse is best done once every four weeks. The time between cleanses allows the existing stones to move forward in the liver, which enables them to be expelled during the next cleanse. You'll know you are finished when no more stones pass. If you are ill, weak, pregnant, nursing, or elderly, please seek holistic medical supervision!

Ingredients

- ◆ 4 TBS Epsom salts (magnesium sulfate). The label will say for both internal and external use. The magnesium opens the bile ducts, which allows the stones to pass easily. This ingredient is critical to your success!
- ◆ 24 ounces (3 cups) of filtered water.
- ◆ ½ (or ⅓) cup olive oil (light or non-virgin oil, which is easier to swallow).
- ◆ ½ (or ⅓) cup citrus juice, made from *fresh* grapefruit (preferably pink or red), fresh lemons, or a combination of both. Do not use concentrate or store-bought juice; this won't blend well with the oil you'll be drinking.
- ◆ *Optional:* (a) Ornithine (an amino acid), to help you sleep—4 capsules if you normally don't have problems sleeping, and 8 capsules if you do. (b) Starting three days before the flush, take 600 mg of malic acid 3 times a day for every 100 pounds of body weight. (c) 1 TBS of Vitamin C powder to nullify the taste of Epsom salts.

Equipment

- ◆ One 1-quart jar with a plastic (non-metal) lid for the Epsom salts mixture.
- ◆ One pint jar with a plastic (non-metal) lid for the citrus juice-olive oil mixture.
- ◆ A citrus juicer. This is mandatory, because you'll need fresh squeezed citrus juice.

Procedure – Day 1

You will need to eat foods that digest relatively quickly so your stomach can empty by evening. If you're able to fast on liquids, you may drink the fresh squeezed juice of 12 grapefruits until 5:00 p.m. If you're eating solid food, finish eating by noon (but you can drink a small amount of grapefruit juice until 5:00 p.m.). Choose light starches with no added fat, such as cooked oatmeal or baked potato (no milk, butter or sour cream), steamed vegetables, and/or green salads. Avoiding fats allows the fat-digesting bile to build up in the liver and gallbladder. If you are carbohydrate intolerant, eat low-carb, no-fat rice or pea protein powder in water. Some people manage with steamed codfish or flounder (without skin) or steamed chicken breast (white meat only, no skin) for the morning meal.

12:00 PM: Stop eating solid food, or you may feel uncomfortable later and the cleanse won't work as well. Mix 4 TBS of Epsom salts and (optional) 1 TBS of Vitamin C powder in 3 cups of cold water in the 1-quart jar. If you don't use Vitamin C powder, you may add a very small amount of citrus juice to the Epsom salt mixture just before drinking it.

6:00 PM: Drink ¾ cup of the Epsom salts. This may cause diarrhea. Don't be alarmed; Epsom salts have a laxative effect.

8:00 PM: Drink ¾ cup of the Epsom salts. If you didn't have diarrhea earlier, you may experience it now.

The timing of the main portion of the cleanse is relatively critical in achieving success. Try not to be more than 10 minutes early or late for anything that follows next. Be ready to go to bed immediately after the 10 p.m. drink.

9:45 PM: Into the second jar, pour all of the olive oil, along with the grapefruit and/or lemon juice. Close the lid and shake the jar hard until the contents are thoroughly blended.

10:00 PM: Drink the olive oil and citrus juice standing up. Take the optional ornithine with the first sips. Drink it all immediately; but if you're weak or elderly, you may drink it over a period of 5 minutes. *Lie down* on your right side for at least 30 minutes, with your knees up to your chest in a fetal position. The sooner you lie down, the more stones you'll eliminate. The oil you drank—much more than the body normally processes at one time—will cause the liver and gallbladder to spasm and dump all available bile, along with stones, gravel and crystals. You may feel stones traveling along the bile ducts. After 30 minutes, you may lie on your back. If you can't sleep, try to remain in bed for another 20 minutes. After that, if you feel nauseated, take ½ (or 1) teaspoon of activated charcoal with 1 (or 2) glasses of water.

Chinese medicine reminds us that the liver is sensitive to feelings of resentment, vindictiveness, and hate. The expression "venting bile" refers to someone who is very angry. So send positive, loving thoughts to your liver.

Procedure – Day 2

Next morning (6:00 a.m. or later): Take your third dose of the Epsom salt solution. If you're nauseated, take ½ (or 1) teaspoon of activated charcoal with 1 (or 2) glasses of water, wait an hour, and then drink the Epsom salts. The Epsom salts act as a laxative, and will induce many loose bowel movements later.

2 hours later: Take your fourth (and last) ¾ cup of Epsom salts. Go back to bed if you want.

After 2 more hours: You may get up and eat. Some people prefer something light, while others want to eat normally immediately. Expect to have diarrhea on this second day. This is normal, due to the effect of the Epsom salts.

Liver/Gallbladder Restoration

Foods. The liver is one of the most important organs in the body. If it cannot do its job of neutralizing poisons, severe illness develops and ultimately death may occur from autointoxication. People who gobble a fast food burger, milk shake, and fries don't think about how this meal is affecting their liver, but caring for the liver means eating real foods. Fake fats, gluten, alcohol, chemicals, refined carbohydrates, and sweeteners (including fructose)—all discussed earlier in this chapter—lead to poor liver function. The liver cannot perform its detox functions well, either, if the diet lacks adequate protein.

The best liver maintenance is fresh squeezed lemon juice in warm water (no sweetener), in the morning on an empty stomach. Lemon juice helps the liver produce enzymes and regulate blood carbohydrate levels. Lemon is a natural killer of harmful bacteria. And it's an antioxidant, scavenging free radicals that are released into the bloodstream during digestion.

Other foods that support the liver include leafy greens, avocados, sulfur-rich foods such as onions and garlic, grapefruit, beets, carrots, and cruciferous vegetables such as cabbage, broccoli and cauliflower. Cruciferous vegetables help activate two critical liver detoxifying enzymes that help flush out toxins.

Herbs. One of the most well-known (and studied) herbs for detoxifying and protecting the liver is milk thistle, also known as *silymarin*. Found in milk thistle seeds, silymarin is a unique antioxidant flavonoid complex that regenerates liver cells, scavenges free radicals, and stimulates bile flow. Silymarin can safely be taken over long periods of time.

Some herbs and spices used in cooking also heal the liver. Herbalist Richard Schulze, who was a student of the renown Dr. John R. Christopher, used many common plants for optimal liver function. Here's an example of the combined ingredients in two of Schulze's formulas: burdock root, dandelion root, cardamom seed, clove bud, ginger root, pau d'arco bark, cinnamon bark, fennel seed, licorice root, juniper berry, black pepper, uva ursi leaf, horsetail, parsley root, orange peel, milk thistle, Oregon grape root, gentian root, wormwood leaf, chaparral leaf, black walnut hull, ginger root, garlic, and artichoke leaf. Collectively, these ingredients flush and detoxify the liver, gallbladder and blood; stimulate the liver to produce more bile; protect liver cells; remove hardened sediments (stones) from the gallbladder; stimulate the digestive tract, eliminating gas and indigestion; increase the flow of urine; and even act as a tonic for the immune cells. No pharmaceutical can perform even one-quarter of these functions!

Coffee Enemas. Earlier, when discussing the colon, I described coffee enemas in detail. In addition to clearing (and possibly normalizing the shape of) the colon, a coffee enema is one of the most powerful healing protocols you can use for the liver. During a coffee enema the liver is stimulated to produce bile, which binds toxins that the body then excretes through the colon. A coffee enema is inexpensive and can be administered at home. The prior text on coffee enemas provides details.

Liver-Gallbladder Cleanse. In addition to a coffee enema, the major cleanse for both the liver and gallbladder involves ingesting olive oil, citrus juice and Epsom salts, at specified times, in under 24 hours. Most people feel much lighter afterwards, with fewer (or no) allergies and better digestion. Over time, with subsequent cleanses (and of course good nutrition), people also report passing fewer (if any) stones. "Stones" may consist of shapeless specks or round masses, sometimes even half an inch (about 12 mm). Mainstream medicine claims that this cleanse is useless, and that the stones expelled by the cleanse are actually solidified oil. But this isn't true. See Insert, pages 465–466, "Liver–Gallbladder Cleanse."

Kidney Cleansing

Kidney Function and Physiology

People normally don't think much about their kidneys until the organs start to malfunction. But by that time, any noticeable symptoms indicate that there may already be damage, even severe structural changes. It's best to support your kidneys before they get into obvious trouble.

According to Traditional Chinese Medicine, the kidneys are the storehouses and predictors of one's life force. The amount of energy a person has depends on the vitality of the kidneys, which is fixed at birth. However, what we were born with can be strengthened. We should treat our kidneys as delicate and special, because they are.

Each day, the kidneys process about 200 quarts (about 189 liters) of blood. A very complex network of tubules filter out undesirable substances to prevent them from getting circulated back into the bloodstream. These tiny particles of waste are excreted with the urine. "Waste" may consist of exogenous and endogenous chemicals. It may also contain electrolytes or substances produced by the body such as beneficial hormones, that the system cannot use at the moment that these materials are being passed through the filtration tubules.

The kidneys constantly monitor the balance of electrolytes and water, making adjustments to either recirculate minerals back into the body or excrete them.

These electrolytes help determine the amount of water that stays inside a cell versus the amount of water that's released outside the cell. The kidneys also produce a protein called *angiotensin*, which signals the body to retain salt and water when necessary. If this mechanism isn't working correctly, blood pressure problems result.

Common symptoms of kidney ailments are pain with urination, abnormal fluid retention, and lower back pain.

Kidney Restoration

Two of the most common problems with the kidneys are urinary tract infections and kidney stones. Infections tend to be from bacteria—usually *E. coli*—that enter the urinary tract through the urethra, where urine exits the body. Stones are crystallized mineral salts (often high in calcium) that haven't been able to dissolve. The kidneys tend to collect stones when there's an infection in the urinary tract, or when one is dehydrated. The universal cure for any ailment of the kidneys is pure, mineralized water, which flushes out the urinary tract.

Foods. Eating properly is vital to support the kidneys. For any type of kidney problem, it's important to limit the consumption of excessive concentrated (animal) protein, and completely eliminate fried foods, excess salt, spices, dairy products, black tea, coffee, and alcohol—all of which can irritate the kidneys. Sugary foods are also discouraged, because the increased insulin resulting from sugar intake raises the calcium levels in the blood, and calcium is a primary material that comprises kidney stones. Oxalic acid (oxalates) is also a component of such stones, so people who have kidney stones should avoid high-oxalate foods until the situation improves. High oxalate foods include spinach, beet root and greens, leeks, sweet potatoes, Swiss chard, rhubarb, okra, almonds, peanuts, pistachio nuts, hazelnuts, beans, lentils, quinoa, and dried figs. Soy, as a questionable food source (see earlier in this chapter, page 308), is out of the question.

Herbs. For infections, one of the best tonics for the kidneys is unsweetened cranberry juice—not the commonly available commercial kind, which is loaded with sugar or high fructose corn syrup, but pure unadulterated cranberry juice concentrate, which is very sour. That, and cranberry powder in capsules, can be bought at a health food store. Although naturally tart, cranberries are rich in D-mannose, a sugar that coats the walls of *E. coli* and prevents the bacterium from sticking to the urinary tract walls. (Urination alone cannot flush out the bacteria.) Although D-mannose alone can also be taken, as a powder or in capsules, cranberry juice may be a better choice as it acidifies the urinary tract as well, which is desirable.

To eliminate kidney stones, Dr. Julian Whitaker recommends drinking 2 to 3 quarts a day of water. He points out that University of California researchers found that just 4 ounces of lemon juice diluted in the water further reduces the numbers of stones, dramatically.

Herbs that are healing to the kidneys can be taken in the form of tinctures and teas. Herbalist Richard Schulze, who also possesses a doctorate in natural medicine and herbology and other degrees relating to herbal pharmacology, has compiled several formulas for the kidneys. He uses juniper berries, corn silk, uva ursi leaf, parsley root, horsetail, goldenrod, hydrangea root, gravel root, marshmallow root, orange peel, peppermint leaf, and burdock root. Collectively, these herbs promote and support healthy urine flow, disinfect the urinary tract, and dissolve minerals (including deposits and stones) in the urinary tract. Even just drinking fresh squeezed lemon juice in warm water (without sweetener), on an empty stomach, helps inhibit the formation of kidney stones due to the naturally occurring citric acid in lemons. You can find preparations for the kidneys at herbdoc.com.

The Lungs

Lung Function and Physiology

The lungs take in oxygen for us and keep us alive, but they also cleanse. This is especially important today, with rapidly escalating levels of airborne contaminants that now include nuclear radiation (discussed earlier) and chemtrails (see Chapter 5).

The entire respiratory tract is essentially one long, connected series of tubes that branch out into two billowy balloons: the two lobes of the lungs, located on either side of the heart. A single tube—the muscular, cartilage-rich trachea (windpipe)—begins in the throat, dividing into two branches (bronchi) in the chest, and further subdividing into many more branches inside the lungs (bronchial tubes or bronchioles, and the smaller alveoli). At these millions of alveoli in each lung, gases diffuse through the membranes. Inhaled oxygen seeps from the lungs into the capillaries, and carbon dioxide seeps from the capillaries into the lungs, where it's exhaled.

Proper breathing requires good lung elasticity, effortlessly contracting and expanding intercostal muscles (which move the rib cage up and out), and a freely moving diaphragm, the muscle that creates negative pressure within the rib cage area so the lungs can fill up with air. Earlier I discussed the emotional component of breathing. People typically hold their breath to suppress unpleasant or painful emotions. If the feelings are not acknowledged and managed, the need to keep them below the level of

conscious awareness ultimately leads to an unconscious, chronic holding of the breath. This further contracts the diaphragm and intercostal muscles, inhibiting breathing even more. Dealing with emotional repression is important, because shallow breathing makes it more difficult for the lungs to eliminate debris. Smoking, infections, and allergic swelling also restrict breathing.

How do the lungs protect themselves from irritants? Most tissues in the body are directly connected to supplies of blood and/or lymph, which carry away debris. But particulates are trapped inside the bowl-like lungs, which must therefore rely on two cleaning agents. The first of the cleaning crew are the mucous membranes that coat the entire respiratory tract. Comprised of water and ionic minerals, mucus possesses some antimicrobial and antioxidant properties. The other cleaning crew members are the cilia, tiny hairs that line the respiratory tract and wave in a rhythmic, beating motion. The hairs lining the nasal passages filter large particles, but it's easy for smaller particles to reach the lungs. Therefore, about three ounces of mucus are secreted onto the lining of the breathing tubes each day, which trap the particles. The microscopic cilia sweep the particulates, trapped inside the mucus, up from the lungs—either toward the nostrils, where it is sneezed out, or toward the pharynx at the back of the throat, where the mucus is funneled down the digestive tract and is eliminated with the rest of the body's waste. Most people swallow this phlegm. However, as the mucus may contain infected material and toxins, rather than burden the digestive tract it's better to eliminate the mucus by coughing or spitting it out.

Lung Restoration

One of the chief nutrients for the lungs is Vitamin A. As Vitamin A is stored in adipose (fat) tissue, it remains in the body for longer periods than do water-soluble vitamins. Nevertheless, Vitamin A depletion is common in most people, especially if they're exposed to cigarette smoke. Add the high levels of pollutants we're all forced to breathe, and you can see why Vitamin A is so important. The air sacs in the lungs can heal if enough Vitamin A is present, obtained either from food (especially liver and raw milk) or from nutritional supplements. Be aware that the carotene in carrots, dark leafy greens and other vegetables is a precursor to Vitamin A, not the true vitamin, and not everyone can make the conversion.

Many herbal teas are good for the lungs. Some are *expectorants*: they bring up mucus and other material from

the lungs by signaling the body to secrete more mucus and water. Such herbs include cardamom, fenugreek, fennel, and thyme. Green tea, an antioxidant, also helps prevent damage to the lungs. Of course, water is a necessary ingredient for the production of mucus.

The simplest way to heal the lungs (and sinuses too) is by inhaling a therapeutic ingredient. If you have a medical grade ozone unit, you can breathe the gas through olive or essential oils. (See information on ozone therapies earlier in this chapter.) Sometimes, simply breathing in steam made from filtered water is enough. One very effective protocol is *halotherapy*, breathing in salty vapors

(from the Greek word *halo*, which means "salt"). The salt draws out water and kills bacteria. An increasing number of studies show excellent results from inhaling salt-infused vapor. In 2006, the *New England Journal of Medicine* found improved breathing in people with both cystic fibrosis and asthma.²⁷⁴ Small ceramic chambers that hold salt and have air holes for inhalation can be bought for home use for about twenty dollars.

Nebulizing (or atomizing) is another simple, effective protocol you can do at home. A medical nebulizer is a small, portable electronic device that delivers fluid into the lungs via either compressed air or ultrasonic power. The fluid (which is placed inside a chamber in the unit) is broken up into a fine mist, and then dispersed into the lungs through a mask that's held against the nose. Some nebulizers can be obtained for as little as fifty dollars. Nebulizers were originally designed to deliver drugs, but there's no reason you can't use colloidal silver and essential oils, or 10 parts colloidal silver to 1 part of food grade DMSO (which helps drive the silver into the tissues). To give you an idea how this equipment can be used, I'll tell you a true story.

Several years ago, a friend of mine I'll call Greta visited me from the Netherlands. She was coughing from the moment she arrived. Although she insisted that she felt fine, I was alarmed. Her incessant cough was a harsh and grating bark, and it came from deep within her chest. I'm not a medical doctor, but I trust my intuition. The phrase "walking pneumonia" immediately popped into my mind. Although she felt exhausted, Greta had been pushing herself to sightsee. The American Southwest desert, where I had made my home, was spectacularly different from what she was accustomed to seeing in her native Holland, and she didn't want to miss a thing.

I had to yell at Greta several times to slow down, which she finally did, reluctantly. She had three rife sessions and

**There's so much pollution
in the air now that if it
weren't for our lungs,
there'd be no place
to put it all.**

—Robert Orben
American comedy writer,
speechwriter, and magician
(born 1927)

visited the sauna twice. (The sauna therapy section begins on page 481.) Greta also took lots of Vitamin C, along with a few natural antibiotic herbs (goldenseal, Oregon grape root, and echinacea). However, what I observed that helped her the most—because it directly addressed the afflicted area, her lungs—was nebulizing.

We filled the chamber of my medical nebulizer with homemade colloidal silver, to which we added an essential oil mixture consisting of eucalyptus, oregano, and lemon. The essential oils possess antibacterial and antifungal properties. Only two fragrant drops were added because essential oils are so concentrated and potent, that some of them can burn tissue if they're not diluted. Then Greta turned on the motor and started inhaling the spray of colloidal silver plus essential oils.

My friend instantly felt relief. She preferred this protocol to Rife Therapy, she said, because it didn't take as long. And she liked it much better than a sauna because she didn't enjoy sweating. Greta gave herself at least four, and perhaps six, 15-minute sessions. When she finally left for home, she was feeling a lot better. She was still coughing lightly, although not as often. And her cough was gentle; it didn't rattle throughout her entire chest.

Several months later, Greta telephoned me. She said that just before her visit with me, she'd been with another friend. She only recently discovered that shortly after she left this friend, the woman was hospitalized with walking pneumonia. Greta was certain that she had caught the airborne pathogen from her friend—but because she had taken care of herself in my home, using natural methods, she was able to avoid a potentially lengthy stay at a hospital.

You will very quickly know, with three or fewer 20-minute nebulizer sessions, if this is what you need. Alternatively, you can put colloidal silver into a cold steam vaporizer or an ultrasonic humidifier overnight. If the unit has a filter, remove it so the silver particles reach your respiratory tract instead of becoming trapped. If the ultrasonic mechanism is metal, wipe it clean once a week. You can help yourself a lot, just by inhaling.

Lymph Clearing

The main function of the lymph is waste elimination. You may recall, from the earlier **Exercise** section, that lymph tissue is dense and requires movement to get it to flow.

Exercise, massage, and bouncing on a rebounder have been previously mentioned as helpful to circulate the lymph. Another simple, yet effective, procedure is immersion in hot and cold water in a shower or tub. Heat causes the tissues to expand and cold causes the tissues to contract, so doing several cycles of heat alternating with cold will pump the lymph. Using water in this way

is basic *hydrotherapy*. It's used in many parts of the world, especially in enlightened parts of Europe that abound in natural hot springs and sulfur pools. Hot springs resorts also feature cold tubs for just this purpose.

Herbs are helpful for the lymph as well. Astragalus increases energy and stamina, is an antioxidant, and has antibacterial and antiviral properties. It's also a mild diuretic and helps move excess fluid (including lymph) in the body. Echinacea combines well with astragalus. Similarly antimicrobial, it also helps reduce congestion and swelling of the dense lymph. You can also rub essential oils of geranium, juniper, and black pepper onto the skin. Essential oils should usually be diluted, or else they're too harsh. A good ratio is 15 drops in one ounce of carrier oil such as almond, avocado, or jojoba.

Activated Charcoal, Clay, and Castor Oil

Activated charcoal, clay, and castor oil are so effective that their health benefits sometimes seem miraculous. Although these three substances may be relegated to the category of "folk remedies" by establishment medicine, don't let their label, simplicity, or low cost fool you. They all draw out poisons from the body, each in a unique way. In addition to their detoxification function, each has special properties—especially clay and castor oil, which help revitalize cells and even kill pathogens. All of these ingredients can be used externally and internally as long as they are food grade, without contaminants.

Activated charcoal and clay belong to a class of substances known as *adsorbents*. That's "adsorbent" with a *D*, not "absorbent" with a *B*. Despite the variation in only one letter, the two are very different. During the process of *absorption*, atoms, ions or molecules of a substance *penetrate or are sucked inside* other molecules, and become part of the physical structure of whatever solid or liquid has drawn them in. During the process of *adsorption*, the atoms, ions or molecules of a substance *adhere only to the surface* of another substance (the adsorbent). As adsorbents, both activated charcoal and clay draw other materials to them, which attach or fuse to their surfaces.

Being ionically unstable, activated charcoal and clay hold a negative electrical charge. (An *ion* is an electrically charged atom or group of atoms, whose unstable electrons in the outer ring naturally seek to bond with electrons from another source to become stable.) Because of this negative charge, they seek positively charged substances—which happen to be toxins. "In the human body," writes Ran Knishinsky in *The Clay Cure*, "when clay is taken internally, the positively charged toxins are attracted by the negatively charged edges of the clay mineral. An

exchange reaction occurs whereby the clay swaps its ions for those of the other substance. Now, electrically satisfied, it holds the toxin in suspension till the body can eliminate both.”²⁷⁵ The author is describing clay, but this quality also pertains to charcoal.

This binding of charcoal and clay to toxins is energetic in nature, not chemical; neither adsorbent undergoes any changes itself. This ability to pull out toxins from the body makes them powerful healing agents. They are used all over the world. Castor oil pulls out toxins in a similar way.

Activated Charcoal

Origin of Activated Charcoal. Many people are familiar with common charcoal, a barbecue fuel. Common charcoal is a byproduct of incompletely burned wood and no longer contains water, just carbon. Activated charcoal, or AC (sometimes called activated carbon), is similar to charcoal, but with some important differences.

Neither food, drug, nor mineral, AC is completely inert. Activated charcoal not intended for internal use is sometimes made with sawdust, and occasionally bone, peat, or coal. Food grade AC is often made of hardwood, though an ecologically superior choice is coconut shell. The charcoal is created by heating the hardwood or coconut shell at very high temperatures, around 1,000°F (538°C). This eliminates the volatile organic compounds, leaving behind only the carbon. The charcoal becomes “activated” when it’s exposed to oxygen (either in gaseous form or from steam) at high temperatures. This activation erodes the charcoal, creating highly porous, exceptionally fine particles with a huge surface area. To give you an idea how huge, 50 grams of AC, powdered to a very fine particle size, has the surface area of 10 football fields.

It’s the tiny pores in activated charcoal that make it porous and adsorptive. Many carbon-based impurities and toxic chemicals are attracted to the numerous tiny bonding sites of AC, where they accumulate and become trapped: so-called organic chemicals, chlorine (making it ideal for water filters), and other poisons.

Charcoal can be made into larger particles between 0.5 and 4 millimeters (mm), and smaller ones between 1 and 150 microns. Industry uses coarse particles, but for internal consumption and health uses, the finer particles are best.

Activated charcoal is completely safe, odorless, and tasteless. It costs pennies, especially when bought in bulk. It can neutralize thousands of times its own weight in gases, heavy metals, toxins, chemical poisons, pathogens, and the wastes from pathogens. The healing effects of AC were known at the time of Hippocrates (460–370 BCE)—if not earlier, around 1550 BC, by the Egyptians.

Properties of Activated Charcoal. Activated charcoal is very efficient in removing odors. This is because it neutralizes the noxious agents that cause the odors. Activated charcoal is used in thousands of items, including vacuum cleaners, military gas masks, kidney and liver dialysis equipment, and (most commonly) water treatment filters for both household and huge municipal systems.

Here is a summary of substances that AC adsorbs. Note that this is not a complete list:

- ◆ *Heavy Metals (Some).* Includes mercury and tin.
- ◆ *Inorganic Pollutants.* Includes chlorine, hydrogen sulfide, and radon.
- ◆ *Some Hydrocarbons with Systemic Toxicity.* Benzene and others, on a case-by-case basis.
- ◆ *Most Medications.* Includes acetaminophen, aspirin and other salicylates, tricyclic antidepressants (such as fluoxetine, also known as Prozac®), amphetamines, barbiturates, cocaine, cold medicines, morphine, narcotics, opiates, and penicillin.
- ◆ *Obvious Poisons and Alkaloid Toxins.* Includes arsenic, caffeine, cyanide, hemlock, nicotine, strychnine, and theobromine (a volatile oil in coffee).
- ◆ *Pesticides and Herbicides.* Includes chlordane, DDT, malathion, and parathion.

Despite activated charcoal’s versatility and ubiquitous presence, its reputation as a “universal antidote” is an error. While the list of what AC adsorbs is impressive—over 4,000 substances—there are some substances that AC does *not* adsorb well, or at all. This is important to know, especially in cases of accidental poisoning. You want to use the appropriate protocols and not waste valuable time, at the possible cost of someone’s life. The following is not a complete list, but some of these substances include:

- ◆ *Strong Acids.* Includes battery acid (sulfuric acid). (*To neutralize, take baking soda in water.*)
- ◆ *Alcohols.* Includes acetone, ethanol, glycols, isopropyl alcohol, and methanol.
- ◆ *Strong Bases.* Includes ammonia, lye, bleach, oven and drain cleaners. (*To neutralize, take vinegar in water.*)
- ◆ *Hydrocarbons.* Includes gasoline, kerosene, naphtha (ingredient in lighter fluid), toluene, and xylene.
- ◆ *Metals and Inorganic Minerals.* Includes lead, and boric acid, fluorine, iodine, iron and sodium (in excess).
- ◆ *A Few Medications.* Includes lithium carbonate.

Note that iodine, iron, and sodium are not poisons per se. But it's possible to take too much of them—in which case, knowing that AC won't help, allows us to use other methods that are actually effective.

AC is routinely given at hospitals to people who have accidentally swallowed poisons, taken too much or the wrong kind of medication, or eaten spoiled food. The charcoal should be taken within 30 minutes of ingesting a toxin because after a little over an hour, most or all of the poison is already coursing through the bloodstream.

Charcoal adheres to toxins in the stomach and intestines, and is eliminated with the feces. However, the toxins might not be eliminated with just one dose, explains John Dinsley in his book *Charcoal Remedies: The Complete Handbook of Medicinal Charcoal and Its Applications*.

Charcoal has the ability to adsorb drugs in the enterohepatic circulation cycle (intestinal-liver circulation loop), significantly clearing them from the bloodstream. Normally, the liver filters poisons from the bloodstream. These poisons are then added to the liver bile, and together they pass back into the intestinal tract for elimination. But it is possible for some drugs to be reabsorbed by the intestines and then back into the blood system before they are [finally, after more similar cycles,] voided in the stool. Therefore, several days of repeated doses of charcoal is still a good treatment for poisons that may otherwise remain in the blood for a long time.²⁷⁶

Bryan Rosner, author of many books on Lyme disease, offers an interesting and complementary perspective on using adsorbents such as charcoal. As you read, keep in mind that charcoal's ability to bind to bile makes it very useful during a liquid fast, liver cleanse, or other cleanse.

The use of binders [in other words, adsorbents] is critical because a large portion of the bile that is secreted by the liver and gallbladder into the digestive tract is absorbed and reused by the body. This recycling is very efficient and allows the body to conserve resources by producing less bile. However, the toxins contained within the bile also get absorbed when bile is absorbed. . . . [Because most of the toxins, including metals] end up in high concentrations in the bile, gut binders can be very helpful in efficiently binding to the bile and its toxins, and ushering them out of the body. When using binders extensively, it can be helpful to consume foods known to help the body make bile, since some bile will be eliminated from the body rather than absorbed.

Binders are not only beneficial because they sequester and usher toxins out of the body. They also facilitate the process of bringing deeper toxins stored throughout body tissues into the gut for elimination. . . . Sequestering and removing bile from the body essentially prompts the body to create more bile, fill it with toxins, and get rid of it, so the use of gut binders has the secondary benefit of accelerating the body's detoxification processes.²⁷⁷

How To Use Activated Charcoal. Activated charcoal comes as a bulk powder, in capsules, and pressed into tablets. Even the coarser grained particle powder is so light and fine that when it's mixed in water, it floats into the air like a black, slow-motion cloud. (This quality has made AC popular with special effects personnel working in the film industry who want to create spooky scenes.) However, for poison control, AC is best used in particle form. Although the black dust travels, and a bit of scrubbing is needed to remove it from clothing and furniture, plain AC mixed in water is the quickest and most efficient way of getting it into your system. If you've ingested a toxin, you want the AC to start working immediately. Activated charcoal capsules, and especially tablets, take time to dissolve. Also, tablets contain fillers and binding agents that are necessary to hold the ingredients together. Studies have shown that tablets are only about half as effective as pure AC in water. Depending on how much water is used, the AC solution can be a watery fluid, or the consistency of a thick soup (also known as *slurry*).

How much charcoal should be ingested in cases of poisoning? Or for binding, in the gut, toxins that may have been in your body for awhile? Different amounts are recommended by different sources. However, it's virtually impossible to overdose on AC (except for the need to drink enough water to avoid constipation), so the general rule seems to be: "Take as much as possible if there's immediate danger from acute toxicity. If the toxicity is chronic, less AC needs to be taken, but it should be used over a longer period of time." Dinsley explains using AC for poisoning.

While most people usually think of poisoning as a single event, we need to be reminded that the body is continually dealing with waste products from digestion and metabolism. The organs employed in filtering and purifying the blood can always use some extra help.

As a general detoxifier, charcoal is without equal. It purifies the six to eight liters of digestive fluids that are secreted daily. This in turn helps to remove foreign substances from the blood.

How To Use Activated Charcoal

People with inflammation and perforations of the colon—conditions such as ulcerative colitis, irritable bowel syndrome (IBS), and Crohn’s disease—should not take activated charcoal internally. However, in such cases it’s safe and effective to apply poultices externally, over the digestive area.

INTERNALLY: For Acute Poisoning (from Food, Chemicals, Medications). Take charcoal within 30 minutes of ingesting the poison. The longer you wait, the more toxins will circulate in your bloodstream and cause systemic damage (or death). It’s impossible to overdose on charcoal, so if it’s urgent, take too much rather than too little. However, drink plenty of water. Otherwise, you risk severe constipation.

- ◆ *Immediately* drink 4 tablespoons (about 40 grams) of AC mixed with enough water to make a thick slurry. Dinsley suggests up to 10 tablespoons (if the stomach’s contents reduce charcoal’s adsorption by up to 50%); children should take half this adult dose. *Activated Charcoal for Medical Applications* advises 1 gram per kg of body weight for adults; 25–50 grams for children; and in general, 10 grams of activated charcoal for each 1 gram of poison ingested. Another formula is: the amount of AC should be 8–10 times the weight of the poison.
- ◆ Fill the same glass or jar with more water and drink the water, along with any remaining charcoal sediment.
- ◆ If your digestion is normal and you have eaten in the past 2 hours, more AC will be needed than the suggested amount. Also, if your digestion is sluggish and you have eaten in the past 3 hours, more AC will be needed.
- ◆ Repeat the AC amount in 10 minutes, and/or if the symptoms become worse.
- ◆ Taking capsules or tablets will delay the benefits of the charcoal. However, if you only have capsules, open them and pour the appropriate amount of AC into the water. If you only have tablets, chew them thoroughly and follow with water. Tablets are only about half as effective as powder because they contain fillers, so take more.
- ◆ Consider using an AC poultice as well. See instructions below for external use.
- ◆ If possible, get to a hospital so you can be monitored. (However, not everyone feels it necessary to do this.)

INTERNALLY: For Chronic Systemic Toxicity (such as Toxins from Mold, *Candida*, or Lyme). Drink enough water.

- ◆ Take 1 tablespoon (or 25–100 grams) of AC powder, mixed with enough water to make a thick drink or slurry. Follow with 2 full 8-ounce glasses of water. Take this 2 hours away from food (or 3 hours away, if your digestion is sluggish).
- ◆ If you have capsules or tablets: Take 4 capsules twice a day, or 6–8 tablets 2 to 4 times a day. Follow with 2 full 8-ounce glasses of water. Take this 2 hours away from food (or 3 hours away from food, if your digestion is sluggish).
- ◆ Follow this protocol until the systemic toxins are eliminated. This may take weeks or even months. Internal use can be combined with external poultices; see below.

EXTERNALLY: Poultices for All Wounds (ingrown toenails, gangrene, swelling anywhere), Insect and Animal Bites, and Systemic Toxicity (over the liver, stomach, belly, kidneys, appendix). You can augment the effects of ingested AC by applying poultices. AC poultices can be messy, so use clean rags that can get permanently stained. Cover poultices with plastic wrap. Cover whatever you’re lying or sitting on with an old towel or plastic. Poultice must be wet at all times. When the poultice dries, make a new one. Two or three a day are suggested.

- ◆ *Immediate Relief:* Make thick paste of AC and water. Apply directly to affected area. Change dressing often.
- ◆ *Immediate Relief for Open or Oozing Wounds:* As long as the sore or wound is clean, you can sprinkle dry AC powder onto it and cover with a clean cloth. Make a new poultice of AC paste when the wound scabs and is dry.
- ◆ *Longer Lasting Relief:* Put a paste of AC and water into a pocket made of paper towel or loosely woven cloth (like cheesecloth). Tape cloth to affected area.
- ◆ *Variations of Lasting Relief Formula:* Half AC, with half of either: slippery elm bark, flaxseed, tapioca starch, arrowroot, chia seeds, clay. This combo formula works better for overnight and longer periods than plain AC paste.
- ◆ *Snake Bites:* Wash area with soap. Submerge in cool water with AC for 30 minutes to 1 hour to slow the circulation of venom. Cover area with large AC poultice. Change poultice every 10 minutes until pain and swelling are gone.

Tip 1. Keep charcoal powder in a tightly sealed glass, plastic or metal container.

Tip 2. To mix AC, use a small jar with a lid and shake. Then pour into a glass and drink, or use for poultice.

Tip 3. Children may accept AC more easily if the charcoal is mixed with food: mashed banana, juice, honey, jam, oatmeal or peanut butter. Some sources believe that chocolate and dairy decrease the amount of toxins the AC can adsorb.

Tip 4. For internal poisoning, do not give AC with syrup of ipecac, as the charcoal will adsorb the ipecac. Take charcoal 30 minutes after administering the ipecac, or after the vomiting from the ipecac stops.

Charcoal adsorbs the intoxicant substance and its metabolites that are excreted into the small intestine by way of the bile duct, thus preventing their reabsorption. As we have noted, charcoal adsorbs drugs that diffuse back into the stomach and intestines.²⁷⁸

This leads me to other uses of AC. Activated charcoal can be used for excess gas and diarrhea. If there is an overgrowth of *Candida albicans* in the gut, or even *Helicobacter pylori* (which causes ulcers), any die-off from these pathogens will be minimal if AC is there to adsorb the toxins. Charcoal also makes a wonderful poultice—either plain, with a minimal amount of water to form a spreadable paste, or with ground flax or other ingredients added to create a jelly-like consistency. With a poultice, toxins in the blood are drawn right through the skin. Poultices are good for wounds, swelling (even for areas you might not think would be helped, such as the prostate gland), and bites from insects and snakes. Furthermore, poultices can be used for internal poisoning. When placed over the liver and abdominal region, a charcoal poultice can expedite the healing process even more than if the AC were solely being consumed internally.

Opinions differ about whether AC depletes the body of nutrients as well as toxins. Dinsley writes:

Russian researchers found that activated charcoal efficiently adsorbed toxins before these poisons could compete with oxygen and nutrients that were trying to pass through the cell membrane. . . . Instead of adsorbing essential food elements, charcoal removes toxins that are competing with nutrients for intestinal and cellular adsorption, thereby promoting efficient nutrient uptake. Those studies that suggest vitamins may adsorb to charcoal were done under abnormal laboratory conditions. . . . If there is any adsorption of nutrients, it is so negligible that it has yet to be shown to compromise one's health. For instance, charcoal has been used for many years as a fecal deodorant for patients with ileostomies and colostomies. In spite of the fact that they may routinely take charcoal orally three times daily for years, it has never been demonstrated to nutritionally affect these individuals who are already at risk for nutritional deficiency.²⁷⁹

People often question if food in the digestive tract interferes with the ability of AC to adsorb poisons. While anything in the stomach might act as a barrier and prevent enough AC from being in contact with a poison, the good

news is that a lot of food in the stomach is likely to slow the transit of the poison into the bloodstream. Ultimately, though, this point is academic. Whether or not food has been ingested, if a toxic substance gets into the digestive tract, the solution is to take charcoal. David Cooney, author of another book on AC, writes that “in an actual overdose or poisoning situation, the physician may have no knowledge of (1) the quantity of drug ingested, and (2) whether or not the digestive tract contains significant food. Additionally, it may not even be known what kind of drug was taken. Moreover, drugs vary enormously in their toxicities, rates of absorption, and the specific effects [produced by overdoses]. . . . Since charcoal is harmless, the only limiting factor is the quantity the individual is willing to accept . . . It would seem that 100 grams [about 3.5 ounces of] charcoal would be sufficient for nearly all cases.”²⁸⁰

There is some scientific evidence that taking charcoal with supplements doesn't prevent the body from utilizing nutrients. A famous study by Russian gerontologist Dr. V.V. Frolkis and colleagues demonstrated that laboratory rats fed a little bit of charcoal with their food experienced increased lifespans by as much as 34%.²⁸¹ “Microscopic tissue examination,” summarizes Dinsley, citing more research conducted on charcoal, “shows that a daily dose of activated charcoal may prevent many cellular changes associated with aging—including decreased protein synthesis, lower RNA activity, organ fibrosis . . . [and] sclerotic changes in the heart and coronary blood vessels. . . . Charcoal [also] lowers the concentration of total lipids, cholesterol, and triglycerides in the blood serum, liver, heart and brain.” One study of people with high cholesterol, published, in a 1986 issue of the British journal *The Lancet*, stated that “two tablespoons (eight grams) of activated charcoal taken three times a day for four weeks, lowered total cholesterol 25%, lowered LDL cholesterol 41%, and doubled their HDL/LDL (high-density lipoprotein/low-density lipoprotein) cholesterol ratio.”²⁸² We know, from Dr. Carel's chicken heart tissue whose mineral bath was changed daily, that toxins play a significant role in aging. (See page 255 for more details on the experiment.) If charcoal is in the gut to bind to those toxins, it prevents them from recirculating in the body, thus shielding our cells from additional chemical stressors. If the experimental AC-fed rats lost substantial nutrients, their life spans wouldn't have increased. Thus, we can reasonably conclude that taking AC with food is safe.

Nevertheless, some people prefer to be cautious. They wait a couple of hours after ingesting AC before taking nutritional supplements or necessary medications (except, of course, in cases of poisoning).

Charcoal can be used alone, with clay (discussed next), or with other binding agents for the gut such as plant sterols. One good plant sterol formula is Cholestepure from a company called Pure Encapsulations. It's often used instead of the pharmaceutical cholestyramine, which upsets the stomach. The combination of AC and Cholestepure especially helps the body eliminate mold and Lyme toxins. When taking Cholestepure, it's ideal to have some fat in the digestive tract to stimulate bile flow, as any toxins circulating in that bile will be available for adsorption by the charcoal in the small intestine. The way coconut oil is metabolized by the body doesn't require bile; but any other healthy fat is fine.

Because activated charcoal rises into the air like thick black smoke when it's stirred in water, it can spread and get messy, staining whatever it touches. Nevertheless, this is a small price to pay for such a versatile product. AC is indispensable for detoxing from poisons or allergenic foods. I wouldn't be without it.

Terramin Clay Promotes Bone Growth

In the 1960s, the National Aeronautics and Space Administration discovered that weightlessness causes bone deterioration in astronauts. By itself, calcium supplements weren't effective. But Terramin, a reddish California clay, was. Benjamin Ershoff of the California Polytechnic Institute reported that the clay's calcium was absorbed more efficiently. Also, other valuable, unknown ingredients in the clay helped the body utilize calcium from any source.

roll in it when injured. Just a few creatures on an extensive list are baboons, bats, bear, buffalo, cattle, chimpanzees, coyote, deer, elephants, elk, giraffes, gorillas, rabbits, rats, sheep, wolves, and even fish. One documentary shows hundreds of South American parrots feasting on clay at the side of a cliff before dining on fruit known to contain toxic seeds. The clay in the stomachs of the birds binds to the poison in the seeds—thus rendering it harmless—while providing minerals for the birds.

Humans instinctively eat clay as well. In tribal cultures of Asia and Africa, pregnant women consume clay to assist the development of the fetus. In Russia, pregnant women sometimes use clay to not only prevent morning sickness but also ensure an easier birth. “Detoxification and mineral supplementation as functions of geophagy,” published in the February 1991 issue of *American Journal of Clinical Nutrition*, describes how in many parts of the world, clay consumption is normal for humans and animals because of the nutrients and detoxification benefits that it provides.²⁸³ For example, the

Clay

History of Clay Use. Many people who hear the word “clay” think of the creative mess in a sculptor's studio (or a child's preliminary attempts to be that sculptor). Perhaps this greasy earth simply reminds you of mud. If you're not familiar with clay in the context of natural medicine, you might be surprised to learn that it's one of the best kept secrets of healing—and that there are hundreds of different clays, each with their own unique healing qualities. Clay comes in many colors: green, yellow, gray, white, red, pink, or a combination of these hues. Typically, each fine grain of clay measures less than 0.0039 mm.

Clay can be ingested or used externally in poultices and baths. The proper use of clay is an art as well as a science, and more books than you might think have been written about clays and their various uses. It's impossible to provide a complete education on clay here; but I hope that, after reading, you'll feel inspired to explore clay on your own. The best source of information on clay, online and perhaps offline as well, is eytonsearth.org.

Scientists are well aware that birds and animals in the wild gravitate toward wet and dry clay deposits to eat it or

Pomo Indians of California have mixed clay into a batter of ground up bitter acorns and water before baking it. The clay neutralizes both the toxic tannic acids in the acorns and the bitterness, a taste that can often indicate toxicity.

Put another way, clay is eaten as a food; it's not an aberration. Clay consumption is very different from a condition the medical industry calls *pica*, which is the indiscriminate ingestion of inedible objects such as paint. (It's possible, however, that children diagnosed with *pica*—many of whom also eat dirt and stones—are intuitively seeking the minerals that are lacking in their diet. Therefore, they should be given clay.) I'll discuss the nutrients in clay, and its detoxification properties, in a moment.

Clays are usually named after where they are found. For example, *montmorillonite* was first named after the prefecture (town) of Montmorillon, France, where it was first identified. In the United States, the brand name under which montmorillonite clay is usually sold is called Bentonite®, because in the US it was first discovered in some rock formations extending from Fort Benton, Montana to eastern Wyoming.

Properties of Clay. A clay's molecular structure as well as mineral content determines its properties. The types and amounts of minerals in clay vary, but in general edible clays contain calcium, copper, iron, magnesium, manganese, potassium, silica, sulfur, and zinc.

Montmorillonite is one of the most desirable eating clays and perhaps the most popular one, aside from green clay. Montmorillonite belongs to a larger category called *smectites*, which have a layered structure. Other groups include *illites* (whose particles have a much smaller surface area than smectites) and *kaolinites* (or kaolin, the main ingredient in the original formula for Kaopectate®, a non-prescription liquid for diarrhea and other digestive disturbances). Still another group, *zeolite*, is well known for seizing and binding contaminants (again, via adsorption). Keep in mind that different sources classify clays differently, so these categories are not strict.

The difference between therapeutic clay that you can eat and the clay used by artists is that consumable clay is free of contaminants, which include pathogens and miscellaneous particles. Skeptics critical of clay ingestion predictably claim that because clays contain aluminum, they're dangerous. (I don't hear these critics express concern, however, for people's declining health from exposure to aluminum in vaccines and other sources.) Clay expert Jason Eaton, owner of eytonsearth.org, has performed extensive analyses of the most extensively used edible clays. He discusses clay's purity and safety:

All of the therapeutic clays are aluminum silicates, so they're aluminum-rich. [This is also true of zeolites.] However, the aluminum is bound in crystal form, so it's completely inert. (AlSO_4 is the base compound, which is incredibly stable.) Therefore, there's no opportunity for aluminum to migrate into the body.

My analyses of the most popular edible clays do show trace amounts of lead and arsenic. However (at least in these deposits), the lead and arsenic aren't water soluble, so therefore aren't bioavailable.

In contrast, some *newly used* clay deposits show traces of mercury, cadmium, and thallium at unacceptable levels. I won't use these types of clays internally or recommend them to others, even though there's a strong probability that these metals will bind to the clay and exit through the feces.

Properly mined edible clays are sourced from at least six feet beneath the ground surface to ensure purity. None of the edible clays I've tested had any problems with pathogenic microbes. Even though there are often aerobic bacteria present by

the time people obtain these clays, the bacteria pose no harm to human or animal life. With the desert clay that I sell, once the clay is hydrated, these organisms disappear anyway.

People have nothing to worry about if they get their clay from reputable sources (although if the clay is being wild-crafted or wild-harvested, a bit more care needs to be used).²⁸⁴

Depending on the clay, its particle sizes vary. Micronized (tiny) zeolite particles can measure less than 11 microns, whereas some mica-rich French illite particles are 20 microns. When ingested, the granules from both are small enough to travel through the bloodstream and adsorb toxins from the body. Clays whose particles are too large to be distributed throughout the bloodstream are still quite effective when used externally (on the skin) in poultices.

Clay's negative electrical charge makes it a powerful magnet for toxins. Most chemical and metal toxins have a positive charge, which are drawn to and neutralized by the negative charge in clay that's many times more powerful than the positive charge of the toxins.

Except when sprinkled dry on food, clay is always used with water. Water plus clay creates either a thick clay drink or a paste-like gel (*magma*). However, they are different from each other. Even though both are produced by adding water to clay, clay water isn't simply runnier magma and magma isn't simply a thicker clay concoction. The amount of water added to the clay determines the intensity of its electrical charge. The *less water* added to the clay, the *more drawing power* it has, Eaton explains. "Each particle of wet clay is quite capable of sorpting a toxic dissolved solid or a toxic smaller particle. What it can't do is draw something from deeper in the body. Thus, adding a thin layer of clay water to a pimple or a cyst will hardly do anything; the single clay particles react to the skin surface only. But when you apply a *very thick gel*, the clay gains the power to draw out toxins from deep within the body. I've seen clay affect the bones in the legs, and every organ. The thicker it is applied, the stronger the effect. This is also why a clay bath is not comparable to clay packs or poultices used on the body."²⁸⁵ Thus, even those who find clay baths relieving may prefer body poultices. Nevertheless, clay suspended in a generous quantity of water is still highly effective when ingested. Note that if clay is eaten as a gel, it will help with deep-seated digestive tract abrasions, but enough water must be drunk soon after to prevent constipation.

Water with a slightly alkaline pH is best for drinking clay. For poultices, any clean water is fine; but it might be better to use distilled water, which turns acidic (see

How To Use Clays

Safe for humans and animals, including those with inflammation and perforations of the colon.

INTERNALLY: Eliminate Chronic Systemic Toxicity (toxins from mold, *Candida*, Lyme), and for Poisoning from Chemicals or Bacteria in Food. The best clays for internal use are bentonite, montmorillonite, and illite. For animals or fussy children, mix clay with their food.

To Make and Use Clay Water.

1. Put 1 teaspoon of clay powder into 8 ounces of water and leave overnight or for 6 or more hours. The clay will settle to the bottom of the glass, but enough will be in the solution to get into the body when you drink it.
2. Take the clay water on an empty stomach, preferably on rising in the morning or just before bedtime. Replace the water you have drunk with fresh water.
3. Repeat this process for three days. On the last day, stir contents of the glass and drink all the clay.
4. As the body adjusts to more clay, 1–3 teaspoonfuls of clay in water can be ingested at one time. Some people take clay for three days, stop for a couple of days, and resume. However, to heal serious systemic toxicity or digestive tract problems, 1–2 quarts (or liters) of clay water can be consumed daily for 6 months.
 - ◆ If eating: Wait at least 20 minutes after to consume clay water. Better yet, take clay water 1 hour before eating.
 - ◆ If taking medication: Wait at least 1 hour, or 2 hours if possible, before consuming clay water.
 - ◆ Do this for weeks or months until the toxins are eliminated. Combine internal use with external poultices (below).

To Make and Use Clay Gel (Magma).

1. Mix enough water with 1 tablespoon of clay powder to make a gel-like paste.
2. Eat the clay gel on an empty stomach, preferably on rising in the morning or just before bedtime. Pour additional water into the container to ensure that you are getting every last bit of clay.
 - ◆ If eating: wait at least 20 minutes before consuming clay magma; 1 hour before eating is better.
 - ◆ If taking medication: wait at least 1 hour, 2 hours if you can, before consuming clay magma.
 - ◆ Do this for weeks or months until the toxins are eliminated. Combine internal use with external poultices (below).
 - ◆ Pets, maintenance amount: Mix with food. Use 1/2 teaspoon for every 20 pounds of body weight.

EXTERNALLY: Poultices for Wounds, Infections, Inflammatory Conditions, Insect/Animal Bites, Systemic Toxicity (over the liver, stomach, belly, kidneys and appendix), Injuries (tendons, ligaments, muscles), and Broken Bones. Augment effects of ingested clay with poultices. You may use colloidal silver or apple cider vinegar instead of water. You may add essential oils *only*. (Flax, slippery elm, and other jelly-like substances detract from the clay's effects.) Add a little water at a time until clay is a thick paste. Clay should be at least 3/4 inch (19 mm) to 1 inch (25.4 mm) thick, and extend 1 inch beyond the targeted area. The drawing action is complete when the clay is completely dry and falls off by itself. Exception: for abscesses and ulcers, change poultice every hour. Clay poultices can be messy, so use clean rags that you don't mind getting permanently stained. Cover poultices with plastic wrap. Cover whatever you're lying or sitting on with an old towel or plastic. When the poultice dries, make a new one. Use at least two or three a day. For sinusitis, migraines, thyroid issues, ear infections: apply to back of neck with local poultices specific to problem. Even cysts deep within the body will dissolve with external poultices.

- ◆ **Immediate Relief:** Make a thick paste of clay and water. Apply directly to affected area. Change dressing often.
- ◆ **Immediate Relief for Open or Oozing Wounds:** As long as the sore or wound is clean, you can sprinkle dry clay onto it and cover with a clean cloth. Make a new clay poultice when the wound scabs and is dry.
- ◆ **Longer Lasting Relief:** Put a paste of clay and water into a pocket made of paper towel or loosely woven cloth (like cheesecloth). Tape cloth to affected area. Apply several poultices a day, especially for injuries like broken bones.
- ◆ **Snake Bites:** Wash area with soap. Submerge in cool water with clay for 30 minutes to 1 hour to slow the circulation of venom. Cover area with large clay poultice. Change poultice every 10 minutes until pain and swelling are gone.
- ◆ **Bathing for Arthritis, Rheumatism, Bone Loss, Skin Problems:** Clay water should be consistency of slurry. Start slowly with 10-minute soak, eventually soaking for 30 minutes. *Throw used clay in the trash, not down the drain.*

Tip 1. Never store or mix clay in metal. Dry clay, clay water, and magma can be stored indefinitely or mixed in glass, enamel, wood, porcelain, china, or plastic. Stir with similar non-metal utensil. Cover containers well for storage.

Tip 2. Don't heat clay or apply heat to it. Heat will negate some of clay's benefits. However, exposure to sunlight and clean air will not hurt the clay; it may energize it.

Tip 3. Always discard used clay in the trash. It will be devitalized and full of toxins.

the **Water** section earlier in this chapter), or electrolyzed acidic water, because the skin's surface is naturally acidic.

The amazing properties of clay have been scientifically and clinically verified. Here are some features of calcium montmorillonite. This popular and versatile clay:

- ◆ Is antibacterial, antiviral, and antiparasitic.
- ◆ Can bind to most toxins, including chemicals (including pesticides), mold toxins, petroleum, radiation, and free radicals (hence, clay's anti-aging effects).
- ◆ Reduces food sensitivities and improves digestion due to the adsorption of toxins in the digestive tract.
- ◆ Increases circulation and the number of red blood cells and T-cells in the body (if taken for a long time).
- ◆ Promotes detoxification because it normalizes the liver.
- ◆ Acts as a catalyst for cleansing and healing, due to either its apparent ability to mimic enzymes, or to actual enzymatic properties itself.
- ◆ Destroys unhealthy cells and helps rebuild healthy cells, tissues, and fractured bones (including vertebrae).
- ◆ Helps maintain friendly flora, proper pH in all body areas, water balance, and cellular osmotic pressure (which allows fluids to cross the cell membrane).
- ◆ Provides the body with many valuable trace minerals, which assist in all aspects of growth, cell integrity, metabolism, and body function.
- ◆ Heals inflammatory conditions; wounds, sores, abscesses, ulcers and punctures; animal and insect bites (including from the brown recluse spider); and various infections, including *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Mycobacterium ulcerans* (which causes Buruli ulcer), *Escherichia coli*, *Moluscum contagiosum* (a viral skin condition), and even the hard-to-treat MRSA (methicillin-resistant *Staphylococcus aureus*) and PRSA (penicillin-resistant *Staphylococcus aureus*).

The detoxification abilities of clays are vast. An article in a 1991 issue of *American Journal of Clinical Nutrition* states: "Clays could adsorb dietary toxins, bacterial toxins associated with gastrointestinal disturbance, hydrogen ions in acidosis, and metabolic toxins such as steroidal metabolites associated with pregnancy."²⁸⁶ Reports of clay's rejuvenation abilities are almost unbelievable. Someone emerged from a coma after poultices were placed on the forehead every two hours. A naturopath applied poultices, four a day, for a friend who'd broken his back. In six weeks he was completely healed.

How To Use Clays. For general guidelines, see Insert on page 477, "How To Use Clays." Note the few circumstances under which clay should be ingested at least one hour before medicines and nutritional supplements.

- ◆ Clay *might* interfere with the body's absorption of a prescription medication, so take the medication at least 1–2 hours before, and consult a doctor to make sure that the body is receiving the prescribed dose.
- ◆ It's highly unlikely that clay will interfere with the body's absorption of herbs, vitamins, minerals, and similar substances. However, if you're concerned, ingest the clay at least 1 hour before.
- ◆ Bentonite use can cause a minor temporary spike in blood pressure; so if necessary, consult a doctor.

Despite the above cautions that one might need to take, I have not read a single warning about using clay long-term, even for 20 years or more. Many famous and respected people throughout history have used clays for decades. Just a few of them include peace activist Mahatma Ghandi, dentist Weston A. Price (discussed earlier in the **Food** section), and medical doctor Max Gerson (1881–1959), who treated cancer with raw juices, coffee enemas, and other holistic protocols.

Practitioners of all types agree that clay is very safe. In fact, it appears to supply what the body needs, even if the clay itself does not contain it. Also, just as every sliver from a magnet retains its properties, every piece of clay retains its Earth energy. For more information about how to use clay, the conditions that clay will help heal, how to select the best clay for your purposes, and where to obtain it, go to Jason Eaton's website, eytonsearth.org.

Castor Oil

Origin of Castor Oil. Castor oil is derived from the seed of the castor plant (*Ricinus communis*, also known as "Palma Christi"). Thought to be native to Ethiopia, the robust plant grows prolifically throughout the world in moist tropical and warm temperate regions, including the southwestern United States. The castor plant can grow up to 15 feet (5 meters) in one season if the sunlight and water are plentiful. The plant is resistant to insects and has striking, many-pronged leaves in a variety of hues: green, purple, red, and maroon. The seeds are referred to as "beans," although botanically they are not. Visually, the beans are as diverse as the plants: no two seeds have exactly the same pattern. Castor beans are comprised mainly of fatty acids, and the rare Omega 9 *ricinoleic acid* constitutes a full 90% of those fatty acids.

Throughout history, castor oil was extensively used to light wick lamps. But this thick oil from the castor bean is so versatile that it's currently used in an amazing number of industrial products: paints, varnishes, inks, plastics, rubber, insulation, nylon, fabric dyes, brake fluid, car and jet engine lubricants, motor oil, food containers, as a fabrics and leather preservative, and even in artificial fragrances. The personal care arena also heavily relies on castor oil as a lubricant, emulsion stabilizer, surfactant, and mold inhibitor. The oil is put into skin creams, lotions, ointments and gels; shampoo and hair tonic; cosmetics (including lipstick); deodorant; and even contraception creams and jellies. Castor oil is a highly effective, soothing emollient (softening and lubricating agent) for dry skin, open sores, rashes, and burns. It's no surprise that these beans have been found in ancient Egyptian tombs dating back to 4000 BC, as even then the oil was used for skin conditions as well as to encourage the growth of healthy, glossy hair. Today, the viscous fluid from the castor bean is regarded as one of the world's most important vegetable oils.

The emollient properties of castor oil, so prized by cosmeticians and manufacturers of skin care products, provide a clue to yet even more profound uses. For thousands of years, castor oil has been used medicinally—in Africa, Egypt, China, Greece, India, Persia, Rome, and later in 17th century Europe and the United States. In the American West after the Civil War, traveling medicine folk peddled many remedies that contained castor oil. It was touted as relieving many ailments, from constipation to heartburn, and some old literature even mentions administering castor oil to induce labor during pregnancy. (We know today that the ricinoleic acid in the oil activates certain types of prostanoid receptors in the uterus, thus inducing contractions.) The clairvoyant “sleeping prophet” Edgar Cayce, who lived in the United States from 1877 to 1945, often recommended castor oil for health problems, especially if they didn't respond to other therapies. Castor oil packs were the most common way of administering the oil (see Insert on page 480, “How To Use Castor Oil”). The packs were often placed on the abdomen or over the liver and spleen. Today, a specially refined form of castor oil is even used by oncologists to deliver some drugs into cancerous tumors. (However, in my opinion this is not the optimal way to use the oil—and if castor oil were used in its more traditional manner, accompanied by other holistic protocols, the drugs would be unnecessary.)

Observational studies indicate that topical application of ricinoleic acid (RA), the main component of castor oil, exerts remarkable analgesic and anti-inflammatory effects.

—“Effect of ricinoleic acid in acute and subchronic experimental models of inflammation.”
Mediators of Inflammation, 2000

Properties of Castor Oil. Is the oil from the bean of a tropical plant truly as beneficial (and remarkable) as some people claim? It depends who you ask. Military personnel typically associate the castor plant with harm, not healing. The ground-up beans contain a carbohydrate-binding protein called *ricin*, which in minuscule amounts can kill. But the ricin is extracted from the bean meal solids, *not* the oil itself. People in the health field—whose job is to affirm life and not perpetuate death—aren't interested in causing harm to others by pelting them with castor bean extract. They treasure what the oil has to offer. One reporter writes:

Ricinoleic acid is not to be confused with ricin, a toxin made from a protein in castor seeds that, if ingested or inhaled, is fatal. In fact, the FBI cites ricin as one of the top three chemical warfare agents.

While castor beans can be lethal if ingested, castor oil itself is not poisonous. According to the *International Journal of Toxicology's Final Report on Castor Oil*, castor oil isn't contaminated by ricin, because ricin does not “partition” [seep] into the castor oil. . . . The FDA, the WHO [World Health Organization] and the Food and Agriculture Organization (FAO) all verify castor oil's safety and effectiveness.²⁸⁷

Researchers have not yet determined precisely how castor oil heals, but there is abundant clinical evidence of the oil's ability to help with an amazing variety of health conditions. Here's a partial list of benefits. Castor oil:

- ◆ Heals the digestive tract: loosens impacted material in the colon, eliminates nausea, reverses constipation, and improves intestinal assimilation of nutrients (thus allowing cellular repair to occur).
- ◆ Heals all types of skin conditions: abrasions, acne, boils, burns, cuts, cysts, fungal infections, itching (chronic or acute), moles, rashes, scar tissue, stretch marks, warts, wrinkles, and wounds (on the skin's surface and inside the internal mucous membranes, such as the mouth and vagina), due to its emollient properties as well as its ability to pull out toxins and increase blood and lymph circulation.
- ◆ Reduces lymph congestion by increasing lymph flow, thus helping the body fight all kinds of infections and toxin-related conditions, from cancer to arthritis.

How To Use Castor Oil

Castor oil is mostly used externally in packs (poultices) on the afflicted area.

Internal use should be supervised or avoided entirely for those with intestinal tract inflammation and perforations (including colitis, diverticulitis, hemorrhoids, prolapse, ulcers, and recent surgery).

Externally applied castor oil packs are safe and helpful for everything, including intestinal tract disorders. For health applications, use organic cold-pressed oil, with a light yellow color. Industrial castor oil isn't safe. Store castor oil in a clean glass bottle.

INTERNALLY: To Heal Digestive Tract and Eliminate Constipation. Take at least one hour before eating or 3–4 hours after eating.

1. If using castor oil as a laxative for constipation, take 1 teaspoon in the morning, an hour before eating. The oil can be mixed with unsweetened cranberry juice (best choice), prune juice, ginger tea, or orange juice to mask the taste, without nullifying its laxative effects. It may take 6–12 hours before a bowel movement ensues.

2. According to World Health Organization Expert Committee on Food Additives, daily castor oil intake should not exceed 0.7 mg/kg body weight, about 1 tablespoon for adults and 1 teaspoon for children.

3. If symptoms persist for more than three days, or you need to use castor oil internally for other purposes, consult a health practitioner. You can use the oil with other therapies, including external castor oil packs (see below).

Do not ingest castor oil for more than three successive days. Taking too much of the laxative oil may result in muscle cramping, nausea, and/or diarrhea (easily resolved by stopping the oil intake).

EXTERNALLY: Castor Oil Packs for All Types of Wounds, Infections, Inflammatory Conditions and Pain (including on limbs), Insect and Animal Bites, Skin Conditions, and Systemic Toxicity (over the liver/gallbladder, stomach, belly, thyroid/parathyroid, kidneys/adrenals, appendix, or other organs and glands).

To make a castor oil pack for most areas of the body:

1. Apply oil to a clean cotton or flannel rag, or a cotton ball. The cloth should be soaked but not dripping.
 2. Place rag or cotton ball onto the bare skin over the area being treated. The oil is messy and the odor and stains are difficult to remove from fabric; so use plastic to cover any areas you want to protect.
 3. Cover pack with a clean dry cloth.
 4. Put a heating pad, hot water bottle, or thick towel over the clean cloth. The heat further activates the oil.
 5. Leave the pack on for 45–60 minutes. You can also leave it on overnight.
 6. When you're done, massage the oil into the area (optional).
 7. Remove the oil with mild botanical soap and water, or with 2 tablespoons of baking soda mixed in 1 quart of water.
 8. Apply a pack 2–3 times a day for several weeks, or until the condition is resolved. Daily use will help conditions resolve much more quickly.
- ◆ You can reuse the pack, each time adding more oil to the cloth. Store in a plastic bag in refrigerator to keep it fresh.
 - ◆ For fungal infections, soak area in Epsom Salts for 10–15 minutes to accelerate healing, then apply castor oil.
 - ◆ Wash oil-soaked cloths separately from regular laundry, because the odor and stains are extremely difficult to remove from fabric and the oil odor can contaminate clothing.

To make a castor oil pack for hair regrowth (in cases of receding hairline, balding, or thinning hair), or for fungal and mite infections of the scalp:

1. Massage enough castor oil into your moderately wet head to coat the entire scalp. *Alternative recipes (because castor oil is quite thick):* (a) Add it to your regular hair conditioner. (b) Dilute it with olive, almond, or another light oil. (c) Blend 1 tablespoon or more of castor oil with 1 to 2 eggs and ¼ to ½ cup of coconut or olive oil.
2. If castor oil is applied at night, cover hair with a shower cap, leave it on until the next morning, and shampoo hair on arising. If oil is applied to wet hair during the day, leave on for an hour and then clean with shampoo.
3. This procedure can be done nightly or several nights a week. You can also dab castor oil on your eyebrows and eyelashes to thicken them.

- ◆ Eliminates free radicals with its antioxidant properties, thus protecting the body's cells.
- ◆ Increases the number of lymphocytes (a type of white blood immune cell), thus enabling the production of more antibodies that kill pathogens.
- ◆ Stimulates liver and gallbladder function, which helps improve toxin removal, alleviate allergies, eliminate gallstones, and heal liver diseases (cirrhosis, hepatitis).
- ◆ Helps detoxify the kidneys and other organs, due to its ability to draw out wastes and poisons.
- ◆ Improves circulation, which not only relieves disorders such as migraines, but speeds healing in all areas that rely on blood flow.
- ◆ Reduces inflammation, which heals injuries and either prevents or helps eliminate infection.
- ◆ Breaks up and dissolves cysts, tumors, lesions, and adhesions (probably because it can normalize tissue).
- ◆ Improves nerve function (it's believed to balance the sympathetic and parasympathetic nervous systems), thus helping to alleviate cerebral palsy, epilepsy, Multiple Sclerosis, Parkinson's disease, and other nervous system disorders.
- ◆ Relieves all kinds of pain, from injuries and sprains in joints, tendons and muscles, to the pain of cancer.
- ◆ Eliminates bacteria and accumulated chemicals, and dissolves excess sebum (a waxy, oily substance produced by the body) on the scalp.
- ◆ Dropped directly into the eye (it's safe), helps eliminate eye infections and dissolve cataracts.
- ◆ Delivers minerals, fatty acids, and other essential nutrients into the scalp—thus stimulating the production of keratin (protein that contributes to the structure of hair), which increases hair growth and repairs split ends.

How To Use Castor Oil. Unlike other ingredients, castor oil is most beneficial when it's externally used. Modern medicine primarily knows about castor oil as an effective laxative, taken internally. But a simple compress (poultice) is often so effective that the results can seem miraculous to those unversed in natural medicine, or unfamiliar with castor oil's many benefits. The poultice is simple, consisting of a clean rag or towel soaked in oil, and then placed on the affected body part. Some people put a hot water bottle or heating pad on top of the pack to ensure a more intense penetration of the oil.

Even by itself, castor oil confers remarkable healing benefits. Some of the oil's most vocal proponents include osteopath Joseph Mercola. Medical doctor William McGarey, who has employed castor oil packs in his clinical practice, was so impressed with the results that he wrote a book called *The Oil That Heals: A Physician's Successes With Castor Oil Treatments*. And medical journals are publishing data on castor oil's properties, such as the ability to relieve arthritis symptoms. Due to how castor oil physiologically affects the body, a huge number and variety of conditions respond to it. Just a few ailments not mentioned earlier are appendicitis, asthma, cancer, cellulitis, colitis, hernia, HIV, hookworm, inflammatory bowel disease, ringworm, scleroderma, and sterility.

Conditions of the reproductive organs also respond very well to castor oil treatments. A close friend developed scar tissue that encircled the entire circumference of her birth canal, not too far from the vaginal opening. The tissue was so hard, reminiscent of a rubber washer, that sexual intercourse was extremely painful for her. Doctors advised surgery to remove the tissue, but she did some research and decided to try castor oil instead. She bought a box of disposable, flexible plastic pipettes (which are normally used to transfer fluids such as essential oils from one bottle to another). After spraying the outside of a pipette with food grade hydrogen peroxide (the pipettes weren't sterile), she siphoned up as much castor oil as she could, and then released the oil into her vagina. "It was very messy, and I had to wear sanitary pads all the time for awhile," she told me. "But it was worth it. In five days I could have sex without pain, and in a month the scar tissue had shrunk and become elastic. It doesn't bother me now."

Castor oil has many applications, is inexpensive, and is simple to use. I wouldn't be without it.

Sauna Therapy

If you ever travel to Finland and are lucky enough to be invited to someone's home for a cup of tea, don't be surprised when you're asked to remove your clothes. You are not being seduced; your hosts are simply requesting your presence in the sauna. To the Finns, an enjoyable evening consists of entering a dimly lit, closed, hot, sometimes steam-filled room of at least 160°F (71.1°C), maybe even 212°F (100°C), for a nude sweat and relaxing chat. The chances of this happening are not as remote as you might think. Currently, the estimated ratio of saunas to people in Finland is one sauna for every three people.

The many different methods of body heating are based on practices that are thousands of years old. In India—where some researchers believe sauna use originated—an

Learning To Sweat

People with certain conditions, such as underactivity of the thyroid gland or Multiple Sclerosis, often have a difficult time sweating easily. For this reason, they may dislike going into the sauna: heat can build up unbearably in the body, with no outlet. But surprisingly, the proper use of a sauna can usually help a body *learn* to sweat.

The best sauna heater for such individuals focuses on a very narrow band of wavelengths in the far infrared (FIR) range, measuring from about 9 to no more than 13 microns. The most beneficial and biocompatible wavelength is 9.35 microns. This wavelength corresponds to the normal, healthy body temperature in humans of about 98.6°F (37°C). However, the 9.35 micron wavelength equals more than a healthy body temperature. It enables eggs to hatch. And it spurs the development of blood, bone, organs, glands, nerves, muscles—in other words, all life processes. Every cell and tissue in the body that's exposed to this wavelength becomes activated and strengthened, regenerated and revitalized.

The 9.35 micron wavelength in FIR saunas imparts another benefit too: temperature regulation. If the body is either too hot or too cold, the enzymes that depend on precisely calibrated environments—which include temperature—become misshapen, and don't perform correctly. This problem is severe, because every body function and part depends on enzymes: blood sugar regulation, brain and nerves, cardiovascular system, digestion, immunity, respiration, and the urinary tract, to name just a few.

Far infrared penetrates deep into the tissues, helping the body release what doesn't belong in it. This includes heavy metals such as fluoride, mercury, cadmium, and arsenic. Fluoride impairs temperature regulation, which is largely governed by the thyroid gland. Therefore, when fluoride displaces the iodine that's normally on the thyroid's receptor sites, the gland can no longer regulate body temperature properly. As a result, the enzymes that depend on a fixed temperature cannot do their job, and they become even more misshapen. Thus sauna therapy is ideal: Sweating helps release metals and other pollutants through the skin. As contaminants are released, the temperature regulation of the body improves. And as the temperature regulation improves, one's ability to sweat improves.

People who have difficulty sweating should begin at low heat and increase the temperature gradually. (Of course, it's wise to leave the sauna immediately at the first sign of discomfort or lightheadedness.) Gradually, as the myriad toxins exit through the sweat, the body will learn to sweat—even more.

Ayurvedic medicine document from 568 BC was found, recommending 14 different methods of inducing sweat. The baths of ancient Greece and Rome included steam chambers, hot baths, and cold pools. The Native American sweat lodge consisted of curved branches covered with animal skins, with large heated stones on the dirt floor in the center of the lodge. For centuries, all over the world, different peoples developed different methods of body heating in areas ranging from small cubicles of clay that held one person to huge wooden rooms that held dozens. The materials for these sweat houses have evolved through the years, but the reason for sweating has remained the same: it's cleansing to sweat. Before I discuss saunas, though, let's review how the body regulates temperature.

In a healthy individual, the body temperature should be about 98.6°F (37°C) during the day. The temperature regulating mechanism in the hypothalamus portion of the brain constantly receives feedback from nerves inside the body and at the skin's surface. The inner nerves report temperature, and the surface nerves—the skin being the mediator between the body and the external environment—report the outer temperature. If the environment gets too cold, the temperature regulating mechanism directs the body to produce heat by shivering, and the blood vessels at the skin's surface contract. This forces more warmed blood to the core of the body to protect the vital internal organs (which is why the limbs are the first to freeze during very cold temperatures).

On the other hand, when the environment is too hot and the body overheats, the temperature regulating mechanism operates differently. The blood vessels in the body and at the skin's surface dilate. This allows heat to travel from the core to the surface so it can dissipate. The blood vessel dilation also keeps the body cool by driving blood *plasma* (just the thin liquid, not the red blood cells) into the spaces between each tissue cell. At this point, the plasma is called *interstitial fluid*. The interstitial fluid then migrates to the sweat glands located deep in the skin.

There are 625 sweat glands in one square inch of skin and approximately 2.5 million sweat glands in the average person. The bottom third of a sweat gland is coiled into a ball, straightening into a single vertical channel (duct) that opens into the top layer of skin. The sweat glands absorb excess interstitial fluid, remove some of the salts (which are recycled back into the body), and then the fluid that is now called *sweat* leaves the body through the pores of the skin. (Interestingly, the fluid that we call blood plasma, interstitial fluid, lymphatic fluid, urine, and sweat are all basically the same liquid, with slight variations in the amounts of proteins, mineral salts, and toxins. We call these fluids by different names depending on their function and location in the body.)

Water evaporating from the skin can cool the body as long as the water evaporates faster than the body can produce sweat. This is why the body can't cool itself well in very humid climates: even though the air is hot, it's so saturated with moisture that it can't hold any more dampness. Hence, sweat tends not to evaporate. This is also why we don't sweat efficiently in a steam room, but do sweat more in a fairly dry sauna. Nevertheless, some moisture is necessary. Many modern sauna rooms use some water to moisten the air. The Finns and Native Americans (among others) throw water on the hot rocks that heat the sauna. This small bit of moisture helps prevent the respiratory tract from becoming too dry.

A sauna should raise the internal body temperature by at least a couple of degrees. The idea is to approximate, as much as possible, conditions resembling a fever. A fever is the body's way of combating infection by "cooking" pathogens. Most harmful microbes can't survive in temperatures over 103°F or 104°F (39.4°C or 40°C). During a fever, the body produces more biochemicals called *endorphins*, which suppress pain. More *enzymes* are also produced, which the white blood cells need to destroy pathogens. Even if body heat is less than during a fever, the nerves and tissue fibers will be more pliable. This helps explain why people feel relaxed and in less pain from sauna use.

A vital feature of sauna therapy is the elimination of toxins. Toxins released through sweating come not only from interstitial fluid, but also adipose (fat) cells. The interstitial fluid seizes the waste products of normal cell metabolism, and the fatty tissue is a huge storage area for many poisons, which tend to be fat-soluble. The fatty tissue keeps poisons out of the bloodstream and prevents them from damaging the organs and muscles. When we sweat, most of the toxins that are excreted through the skin come from the fatty tissue, which begins to break down due to the high heat. (It's wise to avoid noxious chemicals in the first place, however. See Appendix G, "Safe Substitutes for Everyday Toxic Chemicals.")

Sweating, whether from playing at sports, exercising or sauna therapy, takes the burden of processing the toxins off the lymph system, urinary tract, and especially the liver. The products of cell metabolism and chemical wastes tend to be acidic, so sweating them out may raise the pH of some body tissues, making them more alkaline. This helps explain why people feel better when they perspire more than usual.

Toxin accumulation is not limited to seriously ill people. In a Spring 2001 Public Broadcasting Service television special on the chemical industry's suppression of evidence that their own products cause cancer, newsman

Bill Moyers had his blood drawn and analyzed. Out of 150 common industrial chemicals, Moyers's blood contained over 80. The sample included alcohols, solvents, pesticides, petroleum-based synthetics, PCBs, and Persistent Organic Pollutants (POPs). Fifty years ago, there were fewer chemicals than there are today. If Moyers—who was in his sixties at the time—had those levels of pollutants in his body then, what must it be like for a young child today, whose immunity is not as strong as that of an adult? Some studies are now showing over 200 chemicals in the blood of newborns! Toxic chemicals, along with microbial die-off from rifing, make a strong case for using a sauna regularly.

The type of sauna one uses can make a difference between successful and unsuccessful detoxification. Around the early 1900s, medical doctor John Harvey

Kellogg tested three kinds of heating chambers to see which one produced the most beneficial effect. Using sophisticated devices that he invented, Kellogg measured the amount of toxins in the urine and sweat of healthy volunteers who took steamy Russian and Turkish baths, and relatively

dry sessions in the doctor's own electric light cabinet. Kellogg's unit produced more toxins in the skin and urine than did the steamy chambers. The electric light bath subjects also heated more rapidly because steam lessens the amount of sweat that can evaporate from the skin.

The heat wavelengths in Kellogg's electric light bath were largely in the far infrared (FIR) range. Today, sophisticated FIR heaters have replaced Kellogg's breakable bulbs in many sauna systems. FIR heaters use very little electricity because about 80% of the emissions travel through the air to directly heat the body. Emissions in the FIR range penetrate about an inch into the body, past the sweat glands in the skin. Contemporary doctor Dietrich Klinghardt has shown that FIR detoxifies 4.3 times faster than a hot-air sauna.

Our ability to absorb and emit FIR is related to water's ability to absorb and emit FIR. Water intrinsically resonates with these wavelengths. Its molecules become smaller, more mobile, and more easily absorbed into the tissues. Not coincidentally, these wavelengths are the ideal temperature to support life and growth. An FIR wavelength of about 9.35 microns corresponds to a temperature of 98.6°F (37°C). Someone in a weakened state—who's less likely to produce FIR in abundance—can benefit greatly from these biologically compatible wavelengths.

Earlier in the **Oxygen Therapies** section, I discussed adding ozone to sauna cabinets. There's no reason why it couldn't be combined with FIR. As long as the pores are open, the ozone can enter the body and circulate

A sauna—
the poor person's
pharmacy.

—Finnish Proverb

Sauna + Niacin + Exercise = Toxin Removal

In the 1970s, researchers discovered that increasingly high amounts of niacin (Vitamin B3) helps the body release lipophilic (fat-loving) toxins from lipid (fat) tissues. (The niacin must be in a form that induces a flush, *not* time-release. It must also be true niacin, not the derivative niacinamide which doesn't cause a flush.) The niacin flush is not from the vitamin itself, but from heavy metals, solvents, pesticides, and other dangerous toxins in the body. As the toxins leave, the flushing decreases and eventually disappears.

The FIR sauna should be entered three hours after the niacin is ingested—the time it takes for the vitamin to induce the release of toxins from the fat cells into the bloodstream. The body excretes the contaminants via sweating, thus bypassing the detoxification requirements of the liver and lessening the eliminative burden on the kidneys. Subjects begin with 100 mg of niacin, gradually increasing the amount in 100 mg increments when the flushing lessens. (The stomach contents should be similar each time to ensure consistent results.) Exercise, done 30 minutes before going into the sauna, moves the cardiovascular and lymphatic circulations.

Many nutritional supplements are needed. Minerals replenish the electrolytes lost through sweating. B vitamins prevent imbalances that would be caused by taking niacin alone. Activated charcoal binds with toxins in the gut and prevents them from being reabsorbed in the digestive tract and redistributed in the fatty tissues, which could cause unpleasant symptoms and more health problems.

Even after just two weeks of daily saunas with niacin, people feel rejuvenated. Some proudly display the towels that absorbed their sweat, blackened with toxins—indicating the protocol's effectiveness.

See, in Appendix A: *Sauna-Niacin Therapy Protocol*

throughout the bloodstream. It should not be used in sauna rooms, only in *cabinets*, which allow the head to stick out.

Environmentally ill or chemically sensitive people need to pay special attention to the materials comprising the sauna. Woods like cedar, even though they smell wonderful, can be allergenic for some because of their natural, terpene-rich oils. For sensitive people, better choices of sauna materials are polished stone, ceramic tile, more neutral basswood or alder, or medical grade plastic that has first been allowed to outgas at the manufacturer's.

A 20-minute sauna session with deeply penetrating heat can increase blood flow to the skin by 50% or more. A profusely sweating person can lose between 1½ and 3½ quarts of water per hour; so drink plenty of water afterward. Although proportionately more water than

minerals is excreted via sweating, some minerals can still be lost, so electrolytes should be replenished.

Medical supervision is often recommended for people with serious health conditions such as epilepsy, cardiovascular conditions, hemophilia, lupus or Multiple Sclerosis, as well as those wearing a pacemaker or implant (you don't want prolonged high heat to damage or render the devices ineffective). However, medical colleagues have told me that anyone, including pregnant women, can use the sauna with proper medical supervision. In Scandinavia, pregnant women routinely use the sauna without harm.

Most people find that 20 to 30 minutes is sufficient for a satisfying sauna session. People who are clogged with toxins may want to use the sauna every day, while others prefer using it less often. Before entering the sauna, don't eat a heavy meal. Digestion concentrates blood in the stomach region, and it's important to have sufficient blood circulating in your head to avoid feeling lightheaded. Also, as chemicals and poisons leave your system, you might feel nauseated. Taking activated charcoal with plenty of water will bind to toxins in the gut. Keep doing sauna sessions, unless there's a medical reason for you to stop.

Don't use the sauna if you're drinking alcohol, are taking prescription medicines that can interact negatively with body heating, or are using "recreational" drugs. You might pass out, or in some other way be unable to manage your environment. Sauna use is also not advised for those under excessive adrenal stress. Be aware that the body will reach a saturation point where it no longer tolerates heat. This is why, historically, many cultures have alternated hot air and hot water with cold water. If you feel faint, dizzy or uncomfortable, leave the sauna immediately. After you finish your sauna, shower to prevent the toxins that have accumulated on your skin from being reabsorbed.

Regular sauna therapy can play a vital role in any health regimen and increase the speed of healing. Hundreds of well-researched clinical studies report that people with all kinds of conditions benefit from sauna therapy: cancer, colds, fevers, gout, chemical sensitivity, infections, neurological disorders, obesity, respiratory ailments, rheumatism, skin conditions, and toxemia. Newer data shows that autistic children respond very well and become more focused, articulate, and calm. This indicates that autism is largely caused by chemical contaminants that pass the brain-blood barrier and toxify the brain.

If you are killing pathogens with Rife Therapy, herbs, or another method, adding sauna detoxification to your repertoire can radically reduce the amount of time you need to heal. For the history, theory, science, physiological benefits, optimal sauna construction, and "how to" aspects of taking saunas, see my book, *The Holistic Handbook of Sauna Therapy*.

Skin Care

The skin is the largest organ of the body. The presence of boils, eczema, and most rashes indicates too great a burden for the other channels of elimination—there's so much waste in the bloodstream that debris must exit via the skin. Often, skin problems indicate the liver's inability to completely process and neutralize toxins. Even though creams and lotions can soothe and heal the skin, we must address the internal environment that's producing enough waste to affect the skin. Waste materials are usually proteins or pieces of protein. Therefore, sometimes rashes can be eliminated by taking *protease*, an enzyme that digests proteins, on an empty stomach.

Gently stroking the skin with a natural bristle brush removes dead skin cells and stimulates the circulatory and lymph systems. From the feet, use upward strokes toward the major lymph nodes at the inner thighs. From the hands, go up to the armpit, the site of another major cluster of lymph nodes.

Fake foods clog the skin and real foods help the skin remain clear and radiant. If the liver can easily do its job of breaking down contaminants, the skin will have fewer issues. Eggs, fish, liver, meats, and sunflower and pumpkin seeds are all high in zinc, which possesses antibacterial properties and is needed to produce the natural protective oils of the skin. Fatty grass fed meats, fish, and free range eggs are also important because they provide the raw materials used by the body to make Vitamin D3.

One of the best healing agents I have found for all types of skin problems is acidic water, made by my water electrolysis unit (see the section on **Water** at the beginning of this chapter). The skin is naturally acidic, with a protective coating that acts as a barrier against bacterial and some chemical contaminants. Studies show that skin with a pH below 5.0 is healthier than skin with a pH at or above 5.0 (7.0 is neutral, and above that is alkaline). At the ideal acid pH range—between 4.0 and 4.5—the native beneficial bacterial flora remain attached to the skin. Soaps are alkaline, so rinsing and washing with acidic water can be quite healing. In Japanese hospitals, acidic water is used for people with burns.

Nobody likes to have wrinkles. However, most people under 35 years old don't think about this because their skin is balanced, containing sufficient levels of both peptides and TIMPs. *Peptides* are protein signaling molecules that tell the body to build protein-based collagen and elastin, components of normal healthy skin. *TIMPs* (short for *tissue inhibitors of metalloproteinases*) protect these skin proteins

from degrading. As long as the peptide and TIMP levels are adequate in skin, we don't wrinkle. However, starting around 35 years of age, and in skin that's repeatedly exposed to the sun, collagen formation begins to wane. This unfortunate physiological decline has spawned the multi-billion dollar skin care industry.

Typical skin creams or lotions consist of two or more oils that prevent the skin from drying. However, many products—including those found in health food stores—are loaded with parabens and other preservatives, synthetic petroleum products, solvents (to emulsify or mix the ingredients), dyes, and toxic penetration enhancers such as polyethylene glycol (see Appendix F). This is why I sometimes make my own moisturizers.

The face, with its thin skin, feels better with more lightweight oils such as almond, apricot, argan, avocado, grapeseed, light (not virgin) olive, and rose hip seed oils. Skin on the rest of the body can handle thicker shea, cocoa, and mango butters. Coconut oil is versatile and can be used anywhere, including the mucous membranes of the mouth, vagina, and anus. Jojoba, from the seed of a plant, is technically not an

oil but acts like one. It's close in composition to human *sebum*, which our oil glands secrete to protect the skin and prevent it from drying. Jojoba is absorbed well and leaves the skin feeling soft without clogging the pores, so it's often used for massage. Lanolin, also called "wool wax" or "wool fat," is oil from a sheep's skin. It resembles sebum but can be allergenic for some people. Vitamin E is often added to skin care products because it acts as a natural preservative and (even on its own, straight from a capsule) helps prevent scarring. And the gel from the inner leaf of the aloe vera plant is especially healing.

High quality facial care products, intended to restore the skin, contain peptides that induce the formation of collagen and elastin in the deeper epidermal (skin) layers. However, the lack of protease inhibitors isn't usually addressed. During aging (as well as in chronic wounds), the skin not only produces lower levels of peptides, but it also produces lower levels of protease inhibitors (TIMPs)—thus allowing abnormally high levels of protease to devour the proteins that form collagen and elastin. An ideal skin preparation would contain both the restorative peptides *and* something to do the work of the missing TIMPs that the body is no longer producing, to ensure that these peptides aren't destroyed. It's my hope that skin care companies will very soon include TIMPs in their formulas along with peptides, which will make their skin creams much more effective.

The finest clothing made
is a person's own skin, but,
of course, society demands
something more than this.

—Mark Twain
American writer, critic, satirist
(1835–1910)

SLEEP AND REST

Sleep

Effects of Sleep Deprivation

In many parts of our tired modern world, people are urged to get a good night's sleep. However, we didn't always know about this mysterious activity that consumes (or should consume) about one-third of our lives. In 1913, a French scientist wrote the first book on the physiology of sleep. Ten years later, Dr. Nathaniel Kleitman began his work in the US. In 1953 he discovered and reported the importance and meaning of the fluttering movements intermittently made by the eyes during rapid eye movement (*REM*) sleep, which occurs when we dream. Insufficient or disrupted sleep makes people tense, irritable, cognitively impaired, unable to concentrate, unusually withdrawn or aggressive, excessively hungry or not hungry at all, physically ill, and paranoid to the point of hallucinating. The problems resulting from sleep deprivation depend on whether the phase of interrupted sleep is the dreaming REM or dreamless deep slumber cycle. However, all disruptions are serious, even over a relatively short period of time.

It's during sleep that our cells are repaired and replaced. Active and stressed parts of the body have time to recharge. The brain removes waste materials from the central nervous system. And the brain cycles into different frequency ranges that correspond not only to dreaming and body movement, but also to hormone production, kidney activity, liver detoxification, and more.

Regular sleep is crucial to the formation of new brain cells. A 2014 article in *Neurology*, "Poor sleep quality is associated with increased cortical atrophy in community-dwelling adults," showed that a lack of sleep can even cause the brain to shrink, due to nerve cell deterioration.²⁸⁸ The formation of new brain cells helps develop memory. In one study, rats deprived of sleep for 72 hours had significantly higher levels of the stress hormone corticosterone. (Elevated corticosterone levels inhibit the production of new cells in the hippocampus region of the brain, which is involved in memory formation.) Once the rats were allowed normal sleep patterns, which stabilized their corticosterone levels, it took two weeks for the body to produce enough new hippocampus cells.

Experiments show that when people learn a new skill, their performance does not improve until after they have had more than six and preferably eight hours of sleep. Without adequate sleep, . . . skills and even new factual information

may not get properly encoded into the brain's memory circuits. . . . [Between the stage of sleep occurring at the beginning of the night and early the next morning] the brain undergoes physical and chemical changes whose interaction may be what strengthens memory traces.²⁸⁹

Sleep is so important that it's commonly used for brainwashing. In the 1950s, psychiatrist Louis West was appointed "to find out why 36 of 59 United States airmen captured in Korea confessed or cooperated in charges of war crimes against the United States." The findings, stated a biographer, showed that the airmen did not become unpatriotic or cowardly. Nor did the opposing side use any drugs. By interviewing the men, Dr. West discovered that the reason for their political insurgency was "prolonged, chronic loss of sleep," which was "used to confuse, bewilder and torment our men until they were ready to confess to anything." Loss of sleep, "combined with the constant fear of harm and the total dependency on their captors, led the airmen into startling and fairly long-lasting personality changes. Dr. West's work saved the airmen from court-martial. It also demonstrated the vulnerability of people in general."²⁹⁰

Another author describes in detail how psychological techniques, combined with sleep deprivation, were used to control the airmen.

This technique uses three phases. First, the victim is kept awake in isolation and becomes disoriented and disillusioned. Second, he is questioned at length and at all hours of day and night to deepen his confusion. Third, after he has been deprived of regular meals and sleep, of companionship and reading materials, a man becomes depressed and loses his sense of personal identity. It is at this point that he is ready to accept almost any human contact, regularity, and set of political or moral convictions. By such a simple disruption of normal rhythms, many American prisoners of war were induced to sign confessions opposite to their moral and ethical beliefs.²⁹¹

The physical effects of sleep deprivation are as devastating as the mental effects. Even a few nights of broken sleep can catalyze the onset of illness. Normally at night, the pineal gland produces melatonin. Production of the hormone is reduced, or entirely halted, by both interrupted sleep and light. Melatonin is a natural anti-inflammatory agent and may be the body's most efficient scavenger of free radicals (antioxidant). Without

The best cure for insomnia is to get a lot of sleep.

—W.C. Fields,
American comedian,
actor, and writer
(1880–1946)

it, waste products accumulate, which allows pathogens to proliferate and inflammation levels to rise. A 1999 study in the *Journal of Rheumatology* showed that when the deepest levels of sleep were interrupted for as little as three consecutive nights, the subjects suffered from lowered immunity, increased inflammation, raised pain levels, and more fatigue.²⁹²

Lack of sleep also interferes with the body's ability to metabolize fat. Approximately nine hours after dinner, the body begins drawing on its stored fat, and uses it for fuel. Insufficient sleep interrupts this process. It also increases one's cravings for carbohydrates (the favored foods of late night snacking), because the appetite-stimulating hormone ghrelin increases and the satiety hormone leptin decreases. There's also an increased risk for diabetes the body's ability to clear glucose from the blood is reduced by almost half.

Disrupted sleep influences our perception of the world. People tend to focus on negative events and emotions instead of positive ones. They even *remember* negative events more than they remember positive ones. A new 2018 study, published in *Nature Communications*, is called "Sleep loss causes social withdrawal and loneliness." Not only are the brains of the sleep deprived rewired, but those in contact with them also feel more lonely!²⁹³

The effects of sleep loss are endless. Heart rate and blood pressure elevate, digestive disturbances and headaches abound, and (ironically) insomnia prevails. People who work night jobs suffer from the same difficulties as the sleep-deprived. This disruption of the body's natural rhythms affects us on all levels.

Darkness, Noise, and Electromagnetic Pollution

Two centuries ago, our ancestors didn't experience light pollution from indoor bulbs, neon signs, or street lamps after dark. They didn't suffer from noise pollution from heavily trafficked roads and electricity-run machines. Nor did they have to contend with harmful electromagnetic radiation that's routinely emitted by electrical sockets, computers, cell phones, iPads, and power plants (see Chapter 1, pages 11–16). Light, sound, and electromagnetic radiation destroy a good night's sleep.

Eliminate ambient light in your sleeping quarters. As discussed earlier, melatonin—a hormone secreted by the pineal gland that (among other functions) induces sleep—is produced during darkness. Light suppresses the pineal's melatonin (and serotonin) production, so install heavy blackout curtains in the bedroom. People who must sleep during daylight hours because they work at a night job will have more restful sleep if they use blackout curtains on their windows when they're sleeping during the day, and use full spectrum lighting when they're awake at night.

Even if you sleep in a darkened room, turning on the lights, watching TV, or using the computer after the sun sets, can negatively impact your health. To give just one example, Israeli researchers found that a marked increase of exposure to light *at night*—when people should be sleeping—significantly increases the incidence of breast cancer.

There's a debate about whether the quality of sleep when going to bed after midnight is equivalent to the quality of sleep when going to bed before midnight. Some people argue that eight hours is eight hours, and it doesn't matter when you begin the sleep cycle. I disagree. The body is regulated by an innate biological clock, and secretes hormones depending on cues from light and from the Earth's electromagnetic field. For thousands of years, the Chinese have recognized that a meridian (representing specific organs and glands) has a two-hour period when it's the most active and a two-hour period when it's the least active. For example, the adrenal glands do most of their recharging between 11:00 p.m. and 1:00 a.m. Western doctors are finally taking advantage of the body's natural energetic and hormonal fluctuations by performing surgery and dispensing medications at specific times to ensure an optimal response in their clients. It's unwise to omit the sleep cycle from this total, biorhythmic picture. My research and personal experience show me that people function better if they fall asleep before rather than after midnight, even if they receive the same amount of sleep.

Many people sleep in the same room as their TVs, computers, and phones. This is a terrible practice. If you must keep this equipment in your bedroom, unplug everything from the wall—or turn off the surge protector into which the equipment is plugged—before you go to bed. This will prevent leakage of more ambient radiation. As for your iPad and especially your cell phone, turn them off and remove them from the room entirely.

People say, "I'm going to sleep now," as if it were nothing. But it's really a bizarre activity. "For the next several hours, while the sun is gone, I'm going to become unconscious, temporarily losing command over everything I know and understand. When the sun returns, I will resume my life." . . . If you didn't know what sleep was, and you had only seen it in a science fiction movie, you would think it was weird and tell all your friends about the movie you'd seen. . . . So, next time you see someone sleeping, make believe you're in a science fiction movie. And whisper, "The creature is regenerating itself."

—George Carlin
American comedian, author, and social commentator
(1937–2008)

Sleep-Inducing Food and Supplements

If your environment is suitably quiet, dark and free of radiation, and you still have trouble sleeping, consider magnesium. Deficiencies are common, and replenishing this mineral can make an enormous difference between a good night's sleep and not sleeping well. Almonds, pumpkin and sesame seeds, and especially leafy greens (including liquid chlorophyll, taken from the greens), are abundant in magnesium. Magnesium works synergistically with Vitamins K2 and D3, and with calcium.

People with insomnia, sleepers whose bedrooms receive too much ambient light, or those whose sleep patterns have become disrupted from jet lag or a night shift job, sometimes use melatonin. Although it's a hormone, melatonin is sold (and regulated) in the US as a nutritional supplement. Taken orally, it's quickly absorbed into the bloodstream. Many products provide 3 mg or

higher amounts, but for most people even a single milligram is too much. Overdosing on melatonin, especially on a regular basis, will overwhelm the receptor sites and the body will respond improperly and then not at all—whether it's to the body's own, or to supplemental, melatonin. In October 2001, researchers from the Massachusetts Institute of Technology reported that the optimal amount of melatonin to induce sleep in adults over 50 was about 0.3 mg—one tenth the amount of what's in a typical supplement! This small amount pertained to children as well, other researchers found. Too much melatonin can make it hard to fall asleep that same night or subsequent nights. It can cause nightmares. And it can induce grogginess the next morning. You don't want the cell's receptor sites to become numb to the hormone's effects, so start conservatively. You can open the capsule and pour a tiny amount onto your tongue. If the capsule contains a 1 mg dose, begin with one-quarter that amount. If the capsule contains more, adjust the quantity accordingly. Assuming you're taking just what you need and not more, you should feel more alert and rested the next morning. The very reasons for melatonin's success—the induction of a soporific state—explains why it should not be consumed during the day. It can also aggravate depression in susceptible people, so be careful.

Another effective sleep-inducing supplement is the amino acid L-tryptophan, which calms the brain and nervous system and is the precursor to the neurotransmitter serotonin. (A *precursor* is an ingredient that chemically combines with something else to form the substance you really want.) It's illegal for baby formulas to be sold unless they contain added tryptophan, because a

baby will not develop without it. However, in the 1990s, the FDA made it illegal to sell tryptophan supplements. Charles Walters, editor of the holistic farming journal *Acres USA*, explains that tryptophan “became a target for prohibition when Japanese scientists encoded genetically modified organisms for economic production [and put it into the supplement]. . . . The GMO product also produced a toxin . . . [that] killed around a hundred people. . . . The FDA failed to identify the reason and promptly canceled the product even when naturally produced.”²⁹⁴

The timing of the ban is suspicious. The prohibition was first instituted when Eli Lilly began selling the expensive mind-altering drug Prozac®. In 2000, when the drug's patent expired and other drug companies could sell generic versions of Prozac® for pennies (making it unprofitable for Eli Lilly to sell the original drug), the ban was lifted.

In lieu of a supplement that contains tryptophan or its precursor, some sources recommend eating a dinner of tryptophan-rich turkey or chicken. (Chicken soup would work well too, and eliminate the stress of digesting solid food before bedtime.) However, it's possible that the many other amino acids that naturally exist in protein

foods compete with the dietary tryptophan, preventing enough from crossing the blood-brain barrier to induce significant slumber. In that case, tryptophan supplements would be better. Experiment to see which works best for you. Note that even supplemental tryptophan, in whatever form you take it, might not be as available to the body unless sufficient niacin (Vitamin B3) is present.

Some herbs induce sleep. Chamomile flowers make a soothing, relaxing and tasty tea, often in conjunction with other herbs that help settle the mind and calm the nerves: valerian, hops, passion flower, and skullcap.

Large dinners can be a major impediment to getting a good night's sleep (not to mention causing weight gain), especially if you eat after 7:00 p.m. In this case, the body is being forced to work extra hard to digest food when the biological clock is giving the message to slow down and prepare for sleep. If you must munch at night, eat small amounts of carbohydrates (starches and sugars) rather than animal protein. Concentrated protein tends to keep people awake and carbohydrates tend to induce sleep. Some airline crews and passengers who cross time zones on plane trips have successfully navigated the time changes by eating meals containing mostly animal protein or mostly carbohydrates, depending on whether they wish to go to sleep extra early or remain awake and alert for longer periods of time.

Be careful about reading health books. You may die of a misprint.

—Mark Twain
American writer and satirist (1835–1910)

Proper Bedding

Don't underestimate the importance of a comfortable bed. It can make the difference between sleeping well and good health, and sleeping poorly (or not at all) and ill health. In the early 1990s, my companion and I devoted considerable effort to testing mattresses in a New York City showroom. We dragged the mattresses onto the floor (to replicate our wooden platform bed), lay down, and bounced on the mattresses (and on each other). This attracted lots of attention—it was a weekend sale, so the store was packed—but I'm glad we were willing to risk a little short-term embarrassment for long-term health benefits. We had a great night's sleep for almost 15 years, until the mattress finally wore out.

Mattress quality can vary a lot. In the United States, most mattresses are made with harmful synthetic materials doused with fire retardants and other toxic chemicals that produce foul odors from the outgassing. Synthetic foam, even if it doesn't contain heavy metals or fire retardants, outgasses. It emits minute particles into the air that have a detectable odor, and can cause headaches and severe respiratory distress including asthma. Contrast this with natural latex rubber from the rubber tree, which has a mild smell and is much safer, especially for the chemically sensitive. Even bed *frames* may emit odors if they're made from cheap particleboard, which is comprised of wood chips held together with glues and adhesives. If you purchase bedding constructed with such materials, it may take a few weeks or months for the outgassing to stop. But it may never stop. This can be an expensive mistake.

It's wise to invest in a mattress made of natural fibers without chemicals: cotton, wool, hemp, or latex rubber. Even though these materials cost more initially, you'll ultimately save money because you won't become ill from the poisonous fumes. Don't assume that the mattress isn't outgassing just because you can't smell it. When the olfactory cells are constantly barraged by odors, eventually they stop being receptive to the stimulation and become numb. You may be toxifying yourself with chemicals without realizing it.

Similarly, your pillow should also be made of natural fiber. And it should give the head and neck enough support without ruining the natural curve of the neck. As for bedding, organic cotton is always better than synthetics. It allows your skin to breathe.

Optimal Temperature

During sleep, the body's core temperature lowers slightly. Therefore, the room temperature should be lower as well, between 60° and 68°F (about 15.5° and 20°C). However, the feet should be warm. Many people wear socks to bed.

Inclined Bed Therapy (IBT)

Inclined Bed Therapy (IBT) was developed in the United Kingdom by Andrew K. Fletcher. The head of the bed is initially elevated to three or four inches, and is gradually raised to an optimum eight inches. This mode of sleeping may seem strange, but its origins are sound.

Fletcher first became interested in how we can make gravity work for us by investigating the mechanism by which trees draw water from the soil. This led to a public experiment performed before an audience that included Forestry Commission scientists and the local press. Using an open-ended tubes, two vessels, water and minerals, Fletcher showed that water travels upwards much higher than one might think—as long as it's part of a feedback loop where heavily mineralized water can flow down, and non-mineralized water can flow back up.

Any concentration of minerals suspended in water results in the production of heavier water. Heavy liquids produced in the uppermost parts of the tree . . . must fall towards the roots because of the effect of gravity. . . . [while] downward flowing pulses of heavy mineral laden sap will cause a far greater volume of a lighter, dilute solution, in adjoining tubes, to be lifted. . . . Some of [the heavy downward-flowing fluids] are used in the continuous cycle of growth [of the tree], while any remaining heavy liquids which reach the roots are re-diluted by incoming water and flow back to the leaves having become lighter, drawn up by downward flowing concentrated solutions in a continual cycle.²⁹⁵

We can apply this observation to humans. Heavily mineralized blood plasma flows down, and blood plasma that is *not* heavily mineralized flows back up. (The remarkable flow of bodily fluids very likely also relates to the electrical charge in what Gerald H. Pollack refers to as “the fourth phase of water” in his book and online lectures.) Due to the pumping action caused by the heavier mineral-laden fluid and the lighter mineral-deficient fluid, there is no stagnation of movement. However, stagnation *does* exist when the body is horizontal. By sleeping on an incline, we make gravity work for us and not against us. As Fletcher pointed out:

Baboons and other primates sleep in anything but a horizontal position in the branches of trees in order to avoid predators. Cattle and sheep, when given a choice all sleep facing uphill. Birds sleep standing in an upright position. Emperor penguins, for instance, are able to withstand the harsh conditions of Antarctica's winter as they

A Brief History of Medicine

I have an earache.

2000 B.C. – Here, eat this root.

1000 A.D. – That root is heathen.
Here, say this prayer.

1850 A.D. – That prayer is superstition.
Here, drink this potion.

1940 A.D. – That potion is unscientific.
Here, swallow this antibiotic.

2000 A.D. – That antibiotic is artificial.
Here, eat this root.

huddle together in an upright posture for several months without food. . . . The eggs, which they incubate, are maintained at a temperature near to that of our own body temperature. Clearly then, the metabolic rate that maintains our own and every other creatures body temperature is linked, in some way, to the force of gravity, but how?²⁹⁶

Once Fletcher secured the help of his family (and pets) with his inclined bed experiments, he started measuring the biochemical and physiological changes that they experienced. First, urine density was found to test highly acidic during the first morning visit to the toilet, as compared to when sleeping flat. In addition:

Measurements were taken [of heart and respiration rates] while they slept both horizontally and in the inclined position. Over several weeks, it was constantly observed that in all cases the heart rate decreased by around 10–12 beats per minute during inclined sleep, and the respiration rate decreased by 4–5 breaths per minute when compared to horizontal sleep. These measurements were later repeated and electronically confirmed by a nurse working in the Operation Recovery Room of Derriford Hospital, Plymouth. Yet the circulation, oxygen saturation and metabolism in all cases was higher in the “inclined” sleep than the horizontal or traditional sleep [position].²⁹⁷

One can imagine Fletcher’s excitement as he began to secure help from willing friends and neighbors as well, who likewise reported enormous healing benefits.

All who took part [in the inclined bed therapy experiments] experienced benefits, some being almost beyond belief. Several people have shown that it is possible to reverse damage to the central

and peripheral nervous system, including complete spinal cord injuries and nerve damage caused in chronic progressive Multiple Sclerosis, including damage to the optic nerve. Varicose veins, leg ulcers, edema, arthritic conditions, lethargy, muscle wastage (atrophy) and osteoporosis have all responded well to this therapy.

Some respond in four weeks while others may take four months or more. An improved resistance to infection has [also] been observed and I am hoping that this will enable people suffering from immune deficiency disorders to achieve a stronger resistance to seasonal viruses and bacteriological infectious organisms.²⁹⁸

Do these results sound too good to be true? Let’s hear from a source other than Fletcher himself. Australian rifer and massage therapist Ken Uzzell reported major improvements from sleeping on a slanted bed for only nine months. “I crushed my neck and lower back from an accident many years ago. Since IBT, I haven’t had any therapy or pain killers. Plus, my pelvis doesn’t go out. It’s like I never had injuries. I am close to being the fittest I have ever been.”²⁹⁹

Uzzell also observed major improvements with his massage clients who began doing IBT. All sorts of conditions improved or healed entirely: acid reflux, arthritis, back pain, edema, Multiple Sclerosis, metabolic disorders, Parkinson’s, and respiratory distress that included sleep apnea and snoring. Some of Uzzell’s clients are professional athletes. When they began using IBT, he recalls, their coaches were “staggered” by their performance increase. “I was told not to spread the word too aggressively, since after all, people like their competitive advantage.”³⁰⁰

There are sound physiological reasons for this apparently disparate list of improvements during IBT. One, with vastly improved circulation of bodily fluids (even though the heart isn’t working as hard as it does during horizontal sleep), nutrient conveyance and waste removal are more efficient. Two, the reduced compression on the spine allows the lymph tissue to move more freely and drain more easily. Three, the fascia, or membranes enveloping the muscles, unwind. “This is eight hours of low level prolonged traction that is unwinding the fascia,” Uzzell points out. “Rife Therapy unwinds the fascia as well. Relaxing the fascia is a huge boost to every system of the body.”³⁰¹ Four, the more efficient flow of both lymph and blood allows for better temperature regulation. This is why IBT subjects feel warmer during cold weather and cooler during hot weather. Five, the slant allows the entire spine to elongate. This encourages better hydration in the

spinal discs and the fluid sacks in the joints, which leads to a lessening or total elimination of back and joint pain.

The mild traction effects on the spine can produce dramatic results. “Some very nasty spinal degenerative conditions appear to be reversing without the need for surgery or drugs,” Uzzell posted on his website. “Bones actually grow longer, you will grow taller. [However, for a period of one to eight days, you will feel] initial aches in muscles as they elongate and reset.”³⁰² Note that some people feel worse before they feel better, especially if they’ve suffered from spinal injuries. However, this is a common reaction with any corrective therapy that addresses the underlying causes rather than just superficial symptoms. Fletcher wrote:

We found that the first week or so feels a little strange and some people experience a slight ache in the spine, that appears to move upwards into the neck, causing a slight stiffening; however, this soon disappears and seems to be a threshold that needs to be passed before the full benefits of this therapy are experienced. Several participants, including myself, have reported a slight increase in height, suggesting the spine is adopting a more upright posture and is probably due to a gentle easing or stretching in the spine.³⁰³

With such a marked increase in circulation and waste removal, are there any detoxification effects on the body? “You may initially get rapid detox and resulting headaches,” Uzzell advises. “But eventually, all systems in the body will respond and normalize. From my observations, physical trauma exits the body in about six weeks, and emotional trauma releases in three to four weeks.”³⁰⁴

Having known Ken for years as an honest scientist, I decided to experiment myself. Fortunately, my partner was also willing. He raised the head of our bed with cinder blocks to four inches (later upgrading the cinder blocks to wooden bed risers). We bought a sturdy wooden bed frame with a headboard, positioning the headboard at the foot of the bed to prevent both the mattress and blankets from sliding downward. After a couple of weeks of sleeping much more soundly, we decided to raise the bed to the highest recommended slant of 8 inches. To my surprise, it didn’t take long for us to get used to the slant—in fact, my body seemed to crave it. I had one fairly rough week of increased neck and back pain, accompanied by pinched nerves—I assumed that the fascia were indeed unwinding from prior injuries—but afterward, I noticed increased energy and less pain. My partner stopped snoring almost immediately, another surprise because it had been such a serious ongoing problem.

Uzzell explains the difference between standing upright and lying down with your head raised at a 5-degree slant.

Edema, swollen legs due to the breakdown of the lymph system, is resolved. It sounds as though it should be opposite, and the legs should be elevated as per doctors instructions, but I have seen the reverse to hold more value with this problem than raising the legs. When standing upright, the fluid in the legs will not be discharged, but it is [discharged] at 5 degrees.³⁰⁵

Animals like IBT as much as humans do. “I’ve tested the 5 degrees with numerous pets, cats and dogs,” Uzzell reports. “After shuffling around a little, they always choose to sleep uphill, and then they won’t move for the duration of their sleep.”³⁰⁶ This is significant because animals don’t like to be uncomfortable, and they ordinarily shift in their sleep quite a bit.

If you have a painful or degenerative spinal condition, it’s important to ease into the change of angles very gradually. Start with a two-inch incline and increase it only every few months. When you become used to the shift, this is your signal to raise the bed a bit higher. The bed can be raised with bricks, wooden wedges or blocks, or pieces of hard foam.

Inclined Bed Therapy costs almost nothing, is totally self-administered, can eliminate pain, decrease your doctor appointments, and increase the quality of your life. Because it’s not drug-related, studies on IBT will probably not appear soon in medical journals. But because it doesn’t cost much money or require great effort, consider trying it. You might be pleasantly surprised.

Rest

Rest is different from sleep, but it helps restore physical, emotional, and mental balance. The common activities of reading, watching TV, and listening to most types of music technically aren’t considered resting. Even if we enjoy these activities, very ill people, who even passively receive input from their external environment, expend energy. This can hinder the body’s ability to focus on healing because it’s preoccupied with processing information. Rest generally means lying down, in a quiet place that’s a comfortable temperature, without strident or extraneous input. Loud and particularly dissonant music is actually noise, and negatively impacts the system (see Appendix C). Among other effects, it lessens the production of enzymes and beneficial brain transmitters.

Being in a natural setting can be profoundly healing. Many people love being at a lake, on the beach, in a field or

Meditation Using the Breath

For thousands of years, Buddhist yogic masters stated that pranayama and other breathing practices enhance the ability to focus and decrease emotional reactivity. Neuroscientists have confirmed that breathing affects the levels of noradrenaline, a natural chemical produced in the brain. With too much noradrenaline we can't focus. With too little we feel sluggish and unfocused. But with optimal levels—released when we are curious, challenged, focused, emotionally aroused or have been exercising—the brain grows new connections.

By focusing on (along with sometimes regulating) the breath, we can optimize our attention level. Conversely, by focusing on our attention level, our breathing becomes more synchronized. The correct breathing meditation can promote clearer thinking and memory, more stable emotions, and overall health.

forest, or by the side of a mountain, listening to a waterfall or birds, while feeling the warmth of the sun and taking in sunlight through closed eyelids.

Even though you might appear to be “doing nothing” while you rest, your entire system is quite busy! The liver replaces all of its cells every six weeks, we grow a new skin each month, bone cells are replaced every three months, and the stomach gets a completely new lining every four days. People who are ill not only deal with the normal systemic repair and replacement of cells, but their metabolic, excretory and immune functions are working overtime. Unfortunately, in technically advanced countries such as the US, self-worth is too often equated with superior, visible achievement. So it's easy to feel that if we're not pushing frenetically to “make something of ourselves,” nothing is happening. But this isn't true; healing is a major job.

New research indicates that naps taken during the early part of the afternoon recharge the mind and body, and decrease the amount of sleep needed at night. For centuries, people in many cultures have taken afternoon siestas; and some businesses in the West are now emulating this practice. Sleeping lounges have been set up for office employees, complete with couches, pillows, blankets, and alarm clocks. Employers are discovering that the 20 or 30 minutes a worker is absent from the job to take a nap more than exponentially increases work efficiency and productivity, as well as morale.

If you cannot nap or get extra sleep, meditation may be a surprisingly good substitute. At least, it will somewhat mitigate the harm of loss of sleep. Let us explore why this possible.

MEDITATION

Until recently, meditation was regarded as esoteric—either the domain of orange-robed yogis, or practiced by ragged sages who renounce all worldly possessions and climb into a secluded cave in the Himalayas. But you don't have to join a religion or cult to meditate (or benefit from it). Some people meditate as part of their spiritual practice, others do it to release stress and relax, others do it to release stress and improve their health, and still others do it for mental and emotional clarity. I will address solely the physical, mental and emotional benefits, as spirituality is personal and subjective.

Whatever meditative technique is employed, the goal of all meditation is to increase mindfulness. *Mindfulness* may be defined as the quality of being attentive, aware, and centered or grounded in one's self. This allows one to focus on goals with equanimity and purpose—which means better managing one's emotions and overall life—instead of becoming distracted and frantic. The Greater Good Science Center at the University of California at Berkeley explains that the concept of mindfulness, which has roots in Buddhist meditation, has recently become more mainstream.

Mindfulness means maintaining a moment-by-moment awareness of our thoughts, feelings, bodily sensations, and surrounding environment, through a gentle, nurturing lens. Mindfulness also involves acceptance, meaning that we pay attention to our thoughts and feelings without judging them—without believing, for instance, that there's a “right” or “wrong” way to think or feel in a given moment. When we practice mindfulness, our thoughts tune into what we're sensing in the present moment rather than rehashing the past or imagining the future.³⁰⁷

In his comprehensive manual *Practical Meditation*, author and meditation coach Giovanni Dienstmann gives the history of many types of meditation. He explores the many physical, emotional, and mental benefits. He explains how to implement just about any practice you could imagine. And he discusses mindfulness.

Thinking is what the mind does. There isn't much you can do about that. But with meditation, you can calm this noise down. Instead of being lost in your mental chatter, imagine . . . starting your day with more calmness and clarity. You recognize thoughts or monologues as they start to surface and can choose to simply notice them and let them go, or play along with them, but

with more purpose and awareness. This is what mindfulness feels like. . . .

Imagine it is raining . . . and you have forgotten your umbrella. You feel your body tense up, and you become annoyed or upset. With mindfulness, you simply notice the rain and become aware that your body is tensing up and your mind is spinning thoughts of complaint. You don't run blindly with any of these thoughts, and you don't create layers of interpretations about them. This accepting, raw, nonjudgmental awareness is mindfulness.³⁰⁸

There are many different types of meditation. Some forms involve deliberate (and occasionally dynamic) movement, but most require a comfortable seated position with one's back straight, a compatible environment (usually quiet), and a stimulus of an auditory, visual or kinesthetic nature. To entice the brain into a tranquil, aware state, the meditator focuses either on some aspect of the environment or on some aspect of his or her internal state. An environmental focus could be a sound (such as drumming or chanting) or a visual aid (such as a candle flame or a symmetrical, geometric design called a *mandala*). The internal states on which people often focus are some form of mental imagery, an inner sound (called a *mantra*), or one's breathing (see Sidebar, "Meditation Using the Breath"). Sometimes the focus is an activity that combines the inner and outer environments, such as tea being poured in a ritualistic and mindful way: the Zen Buddhist Japanese tea ceremony. (Tai Chi, a graceful, sometimes slow series of martial arts movements, might be regarded as meditative when done in a mindful and deliberate manner.)

In many ways, meditation augments natural bodily processes that occur many times during waking hours. Alpha brain waves—which indicate (and boost) relaxation, creativity and problem-solving—are typically 7–14 cycles per second (hertz). Because the brain needs to rest, every 1½ to 2 hours people enter a prominent alpha wave brain cycle where the cognitive brain is deactivated for 10 to 20 minutes at regular intervals. When one is asleep, this brief but potent interval manifests as dreaming. When one is awake, this interval causes lapses in attention (also known as "daydreaming") that may be barely perceptible or glaringly intrusive. Most meditation techniques induce prominent alpha brain wave activity. Even one daily session can help the brain de-stress and provide needed rest—especially for people who routinely push themselves without accommodating the brain's normal physiological cycles. Effective meditative methods provide a "whole brain" experience so that more neurons fire

between the right (creative) and left (logical) hemispheres, and oscillations are better synchronized between the brain's medial frontal and lateral prefrontal cortices. This generates more rapid firing of neurotransmitters, which increases learning and problem solving abilities.

One of the most valuable meditation techniques is the Transcendental Meditation® program (commonly called "TM®" for short). The TM® technique utilizes a silently voiced mantra, consisting of a Sanskrit word of usually one or two syllables. The basic technique (not the TM-Sidhi® program, which is advanced and beyond the scope of this discussion) is done twice a day for 20 minutes each time. The person sits upright, either cross-legged or in a comfortable chair, with eyes closed, silently repeating the mantra. If other thoughts, feelings or emotions float to the surface, the person simply acknowledges them, and then resumes silently repeating the mantra.

I will describe TM® in depth because, of all the meditation techniques practiced today, this modality has probably undergone the most rigorous scientific scrutiny. To date, over 350 peer-reviewed articles have been published in more than 160 medical and scientific journals—in English, Danish, French, German, Norwegian, Portuguese, Russian, and Swedish. An estimated 85% to 90% of the journal article abstracts reviewed on the website for the National Center for Biotechnology Information (NCBI)—otherwise known as PubMed—cite measurably favorable results (as opposed to neutral or negative results) that testify to the healing properties of Transcendental Meditation®.

Consider just one study, reported in a 1987 issue of *Psychosomatic Medicine*, on the effects of TM® on the amount of medical care needed. Two thousand people across the United States who regularly practiced the Transcendental Meditation® and the (more advanced) TM-Sidhi® programs found a marked decrease in the number of medical services required over the course of five years. Their rate of overall hospitalization was an astounding 56% lower than average. When sorted into specific conditions, the figures for meditators, compared to a control group of non-meditators, were impressive. The meditators' rate of hospitalization for cardiovascular disease was 87% lower; for cancer, 55% lower; for conditions of the nervous system, 87% lower; and for nose, throat, and lung problems, 73% lower. No one could possibly rationalize these figures as statistical accidents!³⁰⁹

TM® can also profoundly affect pain levels, as studies have consistently showed. A 2006 *NeuroReport* recounted how twelve healthy, long-term meditators were matched to twelve healthy controls.³¹⁰ Using imaging techniques of the brain that highlighted its structure,

function and pharmacology, scientists found that the meditators showed a 40% to 50% lower brain response to pain. After the twelve controls were taught Transcendental Meditation® and had practiced it for only five months, their brain responses to pain also decreased by same amount. Significantly, reduced pain was not due merely to an attitudinal change or altered *perception* of pain, but to a fundamental physiological change in how the brain functions. The sympathetic nervous system—which, as part of the fight-or-flight arousal mechanism, is overactive in the majority of people—was balanced. This allowed the research subjects to experience less reactivity to distressing situations, and handle stress with more calmness and grace.

In 2012, *Circulation: Cardiovascular Quality and Outcomes* featured an article called “Stress reduction in the secondary prevention of cardiovascular disease: randomized, controlled trial of transcendental meditation and health education in Blacks.” The authors found that during an average follow-up of over five years, there was a 48% risk reduction in heart attack, stroke, and death in TM® meditators compared to non-meditating controls.³¹¹

The official Transcendental Meditation® website (tm.org) lists hundreds of articles on TM® that have appeared in respected publications—including *AIDS Care*; *Alcoholism Treatment Quarterly*; *American Journal of Hypertension*; *The American Journal of Cardiology*; *Annals of the New York Academy of Sciences*; *Bulletin on Narcotics*; *Cardiology Research and Practice*; *Cognitive Processing*; *Ethnicity and Disease*; *Integrative Cancer Therapies*; *The International Journal of the Addictions*; *The International Journal of Neuroscience*; *Journal of Alternative and Complementary Medicine*; *Journal of Applied Physiology*; *Journal of Clinical Psychology*; *Journal of the National Medical Association*; *Journal of Traumatic Stress*; *Military Medicine*; *Respiratory, Environmental and Exercise Physiology*; *Journal of Creative Behavior*; *The Journal of Clinical Psychiatry*; *Journal of Neural Transmission*; *The New Zealand Medical Journal*; *Psychophysiology*; *Psychosomatic Medicine*; *Physiology and Behavior*; *Respiration*; and *Science*. TM® has been so extensively researched, I found it difficult to choose which articles to cite. The Insert, “A Sample of Studies on the Transcendental Meditation® Technique,” features only a small number of the ones written in English (with the punctuation left intact). The list begins from the earlier to the more recent studies. (Complete citations are in the endnotes.)

**It does not matter how long
you are spending on the
Earth, how much money
you have gathered or how
much attention you have
received. It is the amount of
positive vibration you have
radiated in life that matters.**

—Amit Ray, PhD
Indian author, spiritual master,
and meditation and yoga teacher
(born 1960)

The benefits of TM® are far-reaching. Studies have shown that this technique helps meditators achieve more vitality and energy; decreased heart rate and blood pressure; decreased blood lactase levels; stronger immune function and increased resistance to infection; significant pain reduction (including improvements in headaches, migraines and backaches); a need for less sleep and improved quality of sleep; a decreased need for oxygen during sleep; better motor coordination and faster reflexes; significant reduction and elimination of addictions (including to drugs, liquor and nicotine); improvement in neurological problems including epilepsy;

and increased longevity. The mental health improvements are most impressive as well, for both adults and pre-teens. The more settled, peaceful mind reported by meditators accounts for decreased negative emotions (such as anxiety, pessimism, and depression) and increased positive emotions (including self-confidence, emotional flexibility, and self-awareness). Moreover, studies have also shown increased perceptual ability; improved stress management and reduction or

total elimination of stress (including post-traumatic stress disorder or PTSD); and even increased intelligence and better academic achievement. All of these benefits can take place in as brief a time period as 30 days.

At first glance, the improvements in physical and psychological health from Transcendental Meditation® seem almost too good to be true. How can two 20-minute meditation periods a day accomplish so much? It's not a mystery, though, if you look at the physiology behind the improvements. The primary purpose of (any) meditation is to remove stress from the system. This means calming the fight-or-flight mechanism, which forces us to react rather than respond, and awakening or augmenting the part of the brain and nervous system involved in relaxation, which allows us to respond rather than react. An example of *reacting* means behaving out of fear or anger. An example of *responding* means that we don't allow fear or anger (or any other emotion) to overwhelm us. Instead, we choose the best course of action based on reason, compassion, and cooperation. In other words, we remain calm.

The *fight-or-flight* pattern engages the *sympathetic nervous system*, the part of the autonomic or involuntary nervous system that's involved with contraction and defending ourselves from danger. This system is a throwback to the era when humans had to be vigilant and constantly watch for predators. Blood vessels constrict

A Sample of Studies on the Transcendental Meditation® Technique

- ◆ 1970: "Physiological effects of transcendental meditation." ³¹²
- ◆ 1973: "Autonomic stability and Transcendental Meditation." ³¹³
- ◆ 1975: "Transcendental meditation and asthma." ³¹⁴
- ◆ 1976: "Serotonin, noradrenaline, dopamine metabolites in transcendental meditation-technique." ³¹⁵
- ◆ 1977: "The effect of the Transcendental Meditation technique on anxiety level." ³¹⁶ "Hemispheric laterality and cognitive style associated with Transcendental Meditation." ³¹⁷
- ◆ 1978: "The transcendental meditation technique, adrenocortical activity, and implications for stress." ³¹⁸
- ◆ 1979: "The Transcendental Meditation technique and creativity: study of Cornell University undergraduates." ³¹⁹
- ◆ 1981: "Transcendental meditation and mental retardation." ³²⁰
- ◆ 1982: "The effects of the transcendental meditation and TM-Sidhi program on the aging process." ³²¹
- ◆ 1983: "Systolic blood pressure and long-term practice of the Transcendental Meditation and TM-Sidhi program." ³²²
- ◆ 1984: "Effect of transcendental meditation on breathing and respiratory control." ³²³
- ◆ 1985: "Transcendental meditation and three cases of migraine." ³²⁴
- ◆ 1986: "The TM-Sidhi programme, age, and brief test of perceptual-motor speed and nonverbal intelligence." ³²⁵
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and blood pressure rises. Blood flows away from the digestive organs to supply the large muscle groups so we can run from danger (presumably a large, unfriendly animal). Oxygen consumption increases (in case more is needed for running or fighting). The pupil in the eye dilates so more light enters—during which we cannot see as well, and are literally blinded by fear. Even the pH of the body changes: there's an increased secretion of acidic fluids, which dehydrate the system and can lead to illness. There is also an outpouring of cortisol, which is needed in small amounts for smooth systemic function, but which in excessive amounts causes (among other problems) inflammation, cognitive impairment, and sleep disruption. There's also an imbalance of neurotransmitters—brain chemicals that are intimately involved in how we think, feel, and engage with the world.

The *relaxation* pattern engages the *parasympathetic* nervous system, part of the autonomic or involuntary nervous system that's involved with expansion and meeting the world in a curious, open manner. Blood vessels expand and blood pressure lowers. Blood flows easily to the digestive organs if needed; a supply of extra blood is not required for running away from danger. Oxygen consumption decreases; less is required to function properly and we don't need extra for running or fighting. The pupil in the eye narrows—the opposite of the eyes being “wide with fright”—during which less light enters the eye, allowing us to see more clearly. The body doesn't have to work as hard to maintain the necessary alkaline blood pH, which automatically keeps the system hydrated and leads to better health. The adrenal hormones are secreted in the correct amounts, leading to balanced blood sugar levels, proper immune response, and the right amount of anti-inflammatory chemicals. We have the correct levels of neurotransmitters. All activity of the brain and nervous system, write the authors of *The Relaxation Response*, is:

an integrated response *opposite* to the fight-or-flight response. . . . Lowered oxygen consumption, heart rate, respiration, and blood lactate [which in excessive amounts can cause anxiety] are indicative of *decreased* activity of the sympathetic nervous system and represent a *hypometabolic*, or *restful*, state. . . . [In contrast] the physiologic changes of the fight-or-flight response are associated with *increased* sympathetic nervous system activity and represent a *hypermetabolic* [or *non-restful*] state. [emphasis added]³⁵⁰

Long-term meditation can induce startling, beneficial changes on one's physiology. Usually, starting from the third decade of life, the brain begins to deteriorate and actually shrinks in size. However, in a 2015 article published in *Frontiers in Psychology*—“Forever Young(er): potential age-defying effects of long-term meditation on gray matter atrophy”—the authors write that their findings “suggest less age-related gray matter atrophy in long-term meditation practitioners” and “add further support to the hypothesis that meditation is brain-protective and associated with a reduced age-related tissue decline.”³⁵¹ Fifty-year-olds who'd been meditating for twenty years had the same amount of gray matter as 25-year-olds.

Deepak Chopra, a physician from India trained in both allopathic and his native Ayurvedic medicine, has written many books on healing. In them, he emphasizes the importance of meditating. (First he advocated the TM® technique, and later he began teaching his own system.) In all cases, he offers the perspective of a physicist. Deep relaxation of the nervous system, Chopra explains, results in clarity of thought and “purity” of emotions. By “purity,” Chopra means *coherence*, a term used in physics.

The basic principle is like that of a laser. Normally, light is emitted as scattered, or incoherent, waves. But when light is generated in a laser, a small number of photons are aligned coherently, forming uniform waves, and their influence is enough to trigger a huge outpouring of coherence in all the other photons. The result is . . . coherent light moving in unison. Laser light is much more powerful than normal light: it can cut through steel or travel to the moon and back without losing focus.

As applied to meditation, the theory is that thoughts are also incoherent and weak in the usual waking state, but that meditation makes them more coherent by hundreds of times. (In fact, researchers have demonstrated strong brain wave coherence through TM®. . . .) By the power of coherent mental functioning, the meditators have an influence on the whole of collective consciousness, just as a few photons do for the whole laser beam. As a result, coherent awareness increases in general, and the most incoherent behavior among people—crime and war—is defeated at its source. . . . As more people meditate, the negative tendencies in society decline.³⁵²

As it turns out, there is solid science to support the claim of coherence. Chapter 6 addresses the science of thought and intention—coherence—and cites studies showing that small groups of people who practice Transcendental Meditation® affect the larger group in a beneficial way. Appendix C discusses lasers.

That said, there are other meditative techniques. Many people who practice the official TM® technique (and of course the official organization) believe that this program provides more relaxation and benefits than other methods of meditation, including Zen sitting, Hatha Yoga, autogenic training, and progressive relaxation. This claim is hotly debated. In one refutation, the *Relaxation Response* authors, citing research on TM® that began in the 1960s at Harvard Medical School, write: “There are several techniques, most of which are used as relaxation therapy, which evoke the same physiologic changes. . . . There is not a single method that is unique in eliciting the [so-called] Relaxation Response.”³⁵³ It’s true that intense relaxation is not unique to TM®. Of special interest is Natural Stress Relief® (see natural-stress-relief.com). This procedure was conceived by a former TM® teacher, who objected to the two thousand dollars it cost at that time to learn how to meditate—not to mention the many thousands of dollars that teachers had to pay to become recertified as official instructors. (Also, it’s wise to question *any* claims of “My way, technique or product is the best,” especially if those claims apparently exist to primarily reinforce the wealth, belief systems, and/or power of an individual or organization.) Natural Stress Relief® (NSR®) uses a Sanskrit syllable as a mantra, although the word is different from any that have been used in the TM® program. The website of NSR® is careful to state that their program is entirely independent of the TM® program. Researchers have studied the physiological effects of NSR®, although not as extensively as those of its predecessor. Significantly, though, NSR® is more accessible to a greater number of people. The book and CD—which come with a money-back guarantee—cost less than fifty dollars.

It’s interesting that Maharishi Mahesh Yogi, who founded the TM® technique, is reported to have stated at a 2003 press conference:

Thirty or forty thousand teachers of TM® I have trained, and many of them have gone on their own . . . They may not call it Maharishi’s TM® . . . they [may be] teaching it in some different name . . . [but it] doesn’t matter. As long as the man is getting something useful to make his life better, we are satisfied.³⁵⁴

In 2007, an interesting research paper, “The Effects of Transcendental Meditation® Compared to Other Methods of Relaxation and Meditation in Reducing Risk Factors, Morbidity, and Mortality,” asserted that quieting the mind is the most beneficial goal of meditation.

Just as it is commonly recognized that drug therapies differ in their results (and side effects), it is not unreasonable to consider that relaxation and meditation techniques may also differ in their effects. . . . Ordinarily, the mind is in an active, even agitated state, moving from thought to thought. Because concentration methods try to calm the mind by holding it on one point to prevent it from wandering, these techniques require some degree of mental effort. Because contemplation techniques utilize the meaning and significance of elevating words or phrases, they also keep the mind occupied on more active levels of thinking. Thus, both concentration and contemplation practices engage the active, thinking levels of the mind. On the other hand, the TM® technique is said to allow attention to settle from active to quieter levels. . . . The correct use of the sound [mantra] allows the ordinary thinking process to spontaneously settle to progressively quieter, more subtle levels until even the subtlest thought is transcended and a unified wholeness of awareness beyond the ordinary division between subject (knower) and object (known), termed “transcendental consciousness,” is experienced. In this completely silent self-referral state of “restful alertness,” awareness is said to be fully awake to itself alone, with no other object of thought or perception.³⁵⁵

Put more simply, striving to “do something” during meditation to achieve a particular goal may keep the mind too busy. And if the mind remains busy—immersed in the same brain wave patterns that are normally present during ordinary daily life—then meditating seems counterproductive. If, however, the meditation induces a relaxed alpha state, which means that cerebral cortex activity is bypassed (or transcended), the mind and body will be genuinely relaxed. The goal that many people (including myself) seek during meditation is to access a place of absolute stillness, sometimes referred to as “the still point within.” When one is in this place, the usual stresses of life slip away, yielding to an inner peace that is difficult to describe but is palpably felt.

Having said this—and despite my personal preference for achieving the “relaxation response” (and even transcendent states) by silently and gently repeating a mantra—not everyone enjoys this type of meditation practice. Some people achieve stillness by focusing on a combination of visual images and bodily sensations. To me, such deliberate neurological multitasking, which I regularly do in my daily life, can be exhausting. To exert a similar effort during meditation seems counterproductive to profound relaxation. However, I have a friend who practices this type of meditation. For him, a directed focus on many stimuli at the same time helps him quiet his mind. Everyone is different.

In its broadest sense, meditation might be regarded as something we are, rather than something that we do. “The most basic form of meditation,” psychologist E. Signy Knutsen writes, “is giving your full attention to whatever you are doing, be it preparing a meal, driving in your car, or simply talking to another person.” This focus may also be called *being in the present*. This is the ultimate application of being *mindful*. However, technologically advanced cultures that specialize in all types of distractions (electronics, entertainment, social media) do not encourage people to be mindful. I like to think that at some (unknown) point in Earth’s future, the entire population will naturally and organically embody what a handful of people are striving to achieve now by deliberately practicing daily meditation. Knutsen continues:

Creating a time each day for inner reflection and communion “in the moment” is one of the nicest gifts you can give yourself. When Baba Ram Dass told us to “Be Here Now” [the title of his very popular book published in the 1970s], he was describing the basic ingredient of meditation. . . . [Meditation is] an attitude rather than a technique or process. Once you’ve mastered the attitude, you’ve pretty much attained the goal of meditation, whatever form it may take.³⁵⁶

Whatever definition of meditation you prefer, de-stressing and becoming more mindful are imperative for functioning optimally in today’s world. When we become *unmindful*, our energy dissipates, and we become less efficient and less response-able.

Unfortunately, people often find it easier to be unmindful than conscious. Becoming more conscious is almost guaranteed to involve confronting painful emotions, overwhelming sensations, or negative beliefs. As long as some people can ignore these aspects of life by engaging in distracting activities such as TV, texting, video games, shopping, or addictive drugs and other substances, it’s easy to forget that “be here now” is even an issue. But being unconscious stresses the entire system. Muscles are in a constant unnecessary state of contraction, the adrenals struggle to function while being in a chronic fight-or-flight mode, and the sympathetic nervous system (an alarm state) is engaged. Moreover, breathing becomes shallow, which restricts not only the flow of oxygen and nutrients to the tissues but also heavily impedes emotional awareness. These stressors eventually create illness. They also create more unconsciousness because the stress itself is so uncomfortable—even unbearable—that the body tries to numb itself from the discomfort. Thus the cycle continues.

Around the globe, people have become so out of balance emotionally, mentally and physically, that a daily meditation session no longer seems like a luxury. It’s a necessity. If you have a life-threatening illness, if you’ve been sick for a long time, or if you simply feel run down, giving yourself time to repair and heal is essential. You have already altered your diet. You’re trying to get enough sleep. You have made good use of many of the promising therapies discussed in this chapter. So why not meditate, too, as part of your new routine? You will be giving yourself a profound form of healing whose benefits you may not yet be able to imagine. If you feel too frenzied to meditate, this may indicate how much you need it.

***Whatever protocol you choose,
please consult the health practitioner of your choice.***



ENDNOTES

Chapter 3

HEALTHY LIVING
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Unless we put medical freedom in the Constitution, the time will come when medicine will organize itself into an undercover dictatorship to restrict the art of healing to one class of [people] and deny equal privileges to others.

—BENJAMIN RUSH, A SIGNER OF THE DECLARATION OF INDEPENDENCE



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Frequently Asked Questions

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- Q. I have a radiant plasma unit.
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or lie down? 539
- Q. Will the light from a plasma tube
hurt my eyes? 539
- Q. What if something is blocking the
light?..... 539
- Q. I have been warned about X-rays coming
from the plasma light tube. Is this a
legitimate concern? 539
- Q. Can I be harmed by the radio
frequency (RF) emitted by a device? .. 540
- Q. Different machines use different RF
carrier waves. Does it matter what the
carrier wave is? 542
- Q. I have an electrode (pad) unit. Where
should I place the electrodes? 542
- Q. Sometimes when I use the electrodes,
my skin develops a rash or blisters.
What should I do? 543
- Q. Can I use an electrode and radiant
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- Q. Is it true that radiant plasma devices
work better than electrode devices? ... 544
- Q. My machine doesn't allow me to program
frequencies into it. Instead, it uses code
numbers that correspond to channels
with preprogrammed frequencies. Does it
matter that I don't know what frequency
I'm getting? 545
- Q. My rife machine has a feature called
sweep. What does this do?..... 545

- Q. My rife machine has a feature called *converge*. What does this do?546
- Q. My rife machine has a feature called *gate*. What does this do?546
- Q. My rife machine has a feature called *pulse*. What does this do?547
- Q. My unit already contains some protocols. Did someone program frequencies into the unit and forget to erase them? Was I sent a used or reconditioned unit? 547
- Q. I'd like to decrease the amount of time I spend rifting. Some machines can transmit several frequencies simultaneously. Are they reliable?.....547
- Q. Do rife machines require special care? .548
- Q. Will my rife machine affect other electronic equipment?.....548
- Q. My large heavy unit, which runs on a computer, is on a metal cart so I can wheel it from room to room. When I turn it on, the display is distorted. Why?.....548
- Q. I'm nervous about runing equipment that's used for serious therapy. Aren't rife machines difficult to operate?.....559
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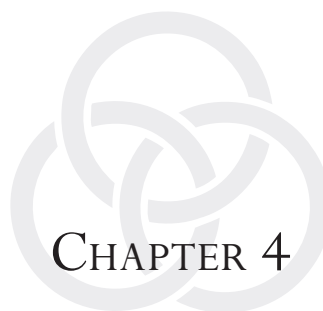
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All About Frequency Devices and Rife Sessions

HOW TO BEST USE THIS CHAPTER

This chapter contains all the “how-to” aspects of rifting. First, you will be told who may safely use this technology, who should not, and who may use it under certain conditions. Then you will learn about the various features of frequency equipment, how to choose a unit that’s right for you, and what to look for in a manufacturer. You will be given a crash course on how frequencies affect pathogens and the body, and how to select the correct frequencies for your condition. You will also be guided step-by-step on how to give yourself a rife session. This includes session length, duration between sessions, and how to manage the toxic waste resulting from the microbial die-off. I’ll also discuss providing rife sessions from the perspective of practitioners.

Before we continue, I want to emphasize the following points:

- ◆ *It’s essential that you read **Precautions for Using This Equipment**, next page.* As with any healing modality, there are circumstances under which you can safely use this technology, times when it is *not* safe to use it, and circumstances when you can safely use it *if you are receiving medical supervision*. If you don’t understand the limits of this technology and you don’t use it responsibly, you may not get results—or, more important, you may actively harm yourself.
- ◆ *Drink plenty of water during and after the session* (for at least 12 hours afterward), regardless of your condition or what device you are using. This may mean one or two quarts of water or possibly more. Water flushes out the toxic debris that rife sessions release. Make sure that the water contains minerals. These can be in the form of liquid electrolytes, chlorophyll, lemon juice, or something similar. Minerals in the water will help replace the minerals that your body will be using to help detoxify from, and eliminate, the debris. Do not use distilled water! See Chapter 3, **Water**, for more information.
- ◆ *Read “A Short Course on How To Give Yourself a Rife Session” at the end of this chapter.* It provides an overview of the basic protocols, general instructions on how to use the frequencies, specific guidelines for a few difficult conditions, and an additional troubleshooting section if you encounter special problems or don’t seem to be responding favorably to your frequency sessions.
- ◆ *Be aware that I am not offering medical advice.* I am reporting discoveries gleaned from reliable researchers and describing what works and why, based on accounts from experimenters worldwide. It is up to you to use your intelligence, intuition and common sense to discern what is suitable for you and what is not. *As always, if you are ill, consult with a qualified health practitioner of your choice.*

PRECAUTIONS FOR USING THIS EQUIPMENT

Be careful when experimenting with this technology. Some units are safe for people with certain conditions but not others. **Types of Frequency Devices** (immediately following) describes different types of units in detail.

If You Have a Heart Condition, But Are Not Wearing a Pacemaker

You must limit your contact with rife technology, or even avoid it entirely, depending on what type of unit you use. Continue reading for the different types of units and the conditions under which they may be used.

Electrode (Pad) Unit

Do not under any circumstance use an electrode unit that transmits the frequencies by means of an electrical current. The electrodes can be in the form of metal hand-held cylinders, flat metal plates on which you rest your bare feet, electrode patches that stick to your skin, thin metal sheets covered with a wet cloth, or metal pans of water, in which you place a part of the body. The electrical current emitted by electrodes may disrupt the beating of your heart and could even kill you. These same warnings, by the way, apply to other electrical devices that touch the body such as ultrasound machines and TENS units.

Radiant Plasma Unit

This technology is considered safe. However, your unit may come with an optional foot plate for grounding. This is similar to an electrode. *Therefore, do not use the foot plate.*

If You Are Wearing a Pacemaker for Your Heart Condition

A pacemaker is a small battery implanted under the skin on the left side, usually below the collarbone, and connected to the heart with wires. It monitors the heart rhythm. If the heart starts to beat too slowly, the pacemaker sends electrical impulses to the heart, causing it to contract. (Pacemakers have no effect on rapid heartbeats, discomfort in the chest area, or weakened heart tissue.)

In order to address frequency device safety for pacemaker wearers, I need to first briefly summarize how pacemakers operate and general safety precautions for pacemaker wearers advised by the medical profession.

The earliest pacemakers were not electronically sophisticated. Like their modern counterparts, they could malfunction from even mild electrical current that touched the body. Older pacemakers also malfunctioned when exposed to *RF frequencies* transmitted through the air. (A

certain frequency range is known as *RF*, short for “radio frequency,” because radio broadcasts are transmitted on them.) In addition, older pacemakers malfunctioned when microwaves were emitted by leaky microwave ovens. Early pacemakers were so crude that some restaurants displayed signs warning wearers that a microwave oven was being used on the premises. Even if the chances were slight that a customer’s pacemaker would be affected by microwave leakage, restaurant management understandably didn’t want to risk any negative reactions or lawsuits.

Due to these serious malfunctions, starting around the mid-1980s, pacemaker manufacturers began *shielding* the devices—covering the delicate inner circuitry with a protective coating—so the pacemakers would continue functioning even when exposed to various electromagnetic signals in the environment. Although new pacemakers are theoretically shielded, it’s possible, one manufacturing rep told me, that not all of them are—especially if they’re being used in less technologically developed countries. Older persons who received pacemaker implants years ago are also more likely to carry unshielded models.

Even though most new pacemakers *are* shielded, a new pacemaker wearer must still be cautious due to so many high-tech electronics on the market. Exposure to electromagnetic interference can affect a pacemaker’s function by readjusting its settings. Any stray electrical signal can confuse the device into registering that the heart’s electrical signals are different from what they actually are. Even a slight possibility of irregular settings requires pacemaker wearers to recognize the symptoms of pacemaker malfunction, among them dizziness and rapid heart rate. Please seek supervision of an experienced doctor who can closely monitor your pacemaker, provide follow-up evaluations, and offer immediate aid if necessary.

Every person wearing a pacemaker should receive a detailed booklet from the manufacturer stating whether or not the pacemaker is shielded, and what special protocols must be followed. Hospital personnel typically advise that people can safely use computers, copiers, electric blankets, electric tools, radar detectors, radios (AM, FM and citizen band), electric razors, televisions, and other appliances. Areas of greater concern include leaning over the idling engine of a car or against metal detectors found in airports and department stores. Areas of serious concern include nearby high-tension electric wires, high-voltage sites, and arc welding machines. Household cordless phones are safe; but the electromagnetic field from cellular phones could be a problem if the phone, while on, is held near the pacemaker (for instance, in a shirt pocket) instead of near the ear. (The dangers of most electromagnetic fields on the *body*, an entirely different issue, are discussed shortly.)

Many hospital tests and medical procedures, including radiation (for cancer), defibrillation, and electrical cauterization, should be done carefully even with a shielded pacemaker; and the device should be assessed afterwards to make sure it's working properly. Another area of concern is exposure to magnetic force fields from either magnetic resonance imaging (MRI) or other modalities that use oversized magnets. I mention this because some electromedical devices, which ordinarily are safe and effective, emit magnetic fields that disrupt pacemakers.

Clearly, with even the most modern shielded pacemaker there are risks. This is why it's so important to know about your particular pacemaker before trying rife technology.

Who among pacemaker wearers is most at risk for using a frequency device? Depending on what type of frequency device you want to use, your experimentation will be *limited or contraindicated entirely*. *Please read the information below carefully—your life may depend on it!*

Electrode (Pad) Unit

If you wear a pacemaker, do not under any circumstance use an electrode unit that transmits the frequencies by means of an electrical current! The electrodes can be in the form of metal hand-held cylinders, flat metal plates on which you rest your bare feet, electrode patches that stick to your skin, thin metal sheets covered with a wet cloth, or pans of water, in which you place a part of the body. The electrical current emitted by electrodes may not only disrupt the beating of your heart, it can also interfere with the function of the pacemaker and kill you. These are the same warnings given by manufacturers of other medical devices that touch the body, such as ultrasound machines and TENS units.

Radiant Plasma Unit With Radio Frequency

Electrode units are out of the question for a pacemaker wearer. Therefore, the only possible safe choice is a radiant plasma unit. Your first question to the company should be if the device is using RF to send the frequencies into the body, and explain why you need to know.

There are two types of radiant plasma units: those that use radio frequency (RF), and those that do not use RF. The RF is a carrier wave, which is a separate signal from the pathogen-disabling and biological frequencies that the user programs into the unit. See **Types of Frequency Devices** later in this chapter for more information on machines that use RF; but for now, here's a brief summary.

Most Rife researchers have assured me privately that radiant light units are perfectly safe—at least for those wearing shielded pacemakers—whether or not a unit is emitting RF, and whether or not a unit is touching the

body. Some RF unit manufacturers who say that the RF isn't strong enough to interfere with pacemaker function, advise sitting 6 feet away from the unit anyway, beyond the range of the RF. RF does dissipate, but how can the average layperson determine what a "safe" distance is?

A more prudent viewpoint is expressed by Rife researcher Jimmie Holman, who manufactures a radiant plasma unit that emits very high levels of power and precise wave forms without any RF. He emphasizes some important differences between radiant units that emit RF and those that do not.

Some of these light units are well constructed. But they emit enough electromagnetic interference to screw up a TV set badly. One of my earlier, experimental RF plasma tube units had some of the cleanest, lowest voltage emissions on the market—but in the wrong hands, improperly tuned, it could cause problems. Even a loose cable can be responsible for severe RF leakage. This is why I now refuse to sell such units.¹

A critical point is "properly tuned." One of my favorite frequency devices has an RF carrier wave of 27.12 MHz. A correctly working RF unit can be highly effective, but it causes problems and can even become unusable if it loses its tuning. This became clear to me on a very personal level several years ago, when two men from my local phone/Internet provider knocked on my door at seven at night. The Internet connections of many of my neighbors had been constantly interrupted over the course of two weeks, and after numerous complaints the service technicians traced the disruptive signal straight to me. Sure enough, the signal was coming from my office, where the frequency equipment was conveniently set up next to my computer. My own Internet connection had been erratic ever since I received the machine, but until the technicians showed up, I didn't know why. (Note that this was a *wired* connection that was being affected, and not WiFi.) I had to send the unit to the company for repairs.

Check with both your doctor *and* your pacemaker manufacturer to make sure your pacemaker is shielded. If it's not, you'll need to consider the pros and cons carefully. If I were wearing a pacemaker and had a terminal illness that wasn't responding to other treatments, I would use an RF unit if a non-RF unit wasn't available. Fortunately, modern pacemakers are supposed to be manufactured so that they're shielded properly.

If you wear a pacemaker and do decide to use an RF tube device: your unit may come with an optional foot plate. This is similar to an electrode. *Therefore, do not use the foot plate.*

Radiant Plasma Unit Without Radio Frequency

For pacemaker wearers, the only safe choice is plasma. Even then, you may want to use a machine that does not emit RF.

Ask the manufacturer if the device is using RF to send the frequencies into the body, and explain why you need to know. If the equipment does not utilize RF or emit any other known signal that could disrupt pacemaker function, you may freely use the machine. (Some people who are very sensitive to RF and electromagnetic fields in general may wish to use a radiant unit that doesn't use RF. This is discussed shortly.)

Regardless of what type of pacemaker you have: your unit may come with an optional foot plate. This is similar to an electrode. *Therefore, do not use the foot plate.*

Electrosmog or Electromedicine?

Not all EM fields are harmful. Briefly, the effects of EM radiation depend on:

- ◆ *Where on the EM spectrum* the wavelengths exist—in other words, *what type of wave* it is.
- ◆ The *concentration*—coherence vs. diffusion—of these wavelengths.
- ◆ The *voltage or force* with which these wavelengths interfere with bodily functions.
- ◆ *How* that radiation is being *transmitted and administered*.
- ◆ *Proximity* of the individual to the source of the field.

All of the above circumstances can literally make the difference between wellness and illness, life and death. Below are some fundamental differences between harmful and healing EM fields.

Electrosmog: Harmful EM Fields

- ◆ Signals are chaotic, sporadic, and inconsistent.
- ◆ Frequencies are in the range of living cells; combined with the chaos of the signal, they disrupt cellular function.
- ◆ Remove electrons from the body, thus supporting the propagation of free radicals.

Electromedicine: Healing EM Fields

- ◆ Signals are coherent, regular, and uniform.
- ◆ Frequencies may be in the range of living cells, but wave coherence makes them compatible with living organisms.
- ◆ Add more electrons to the body, thus helping to inhibit free radicals.

For more information, see Chapter 1 Insert, "Electromagnetic Fields and Your Health."

If You Are Wearing an Autodefibrillator

See the previous guidelines for pacemakers.

If You Are Pregnant

Nutrients that the mother ingests, chemical pollutants to which she's exposed, and the hormones she secretes, all travel through her bloodstream to the baby. So will the toxic waste from the pathogens that flood the system as a result of rifting. Because a developing fetus can't eliminate toxins as efficiently as an adult can, you may want to avoid rifting while pregnant *unless there's an emergency and/or you're consulting a doctor*. Note that this precaution applies *only* if the mother and/or fetus is ill, and whatever pathogens they harbor are being correctly targeted by the frequency equipment. If neither the mother nor child are ill, there will be nothing in the system to be killed by the frequencies, and the sessions will simply have no effect.

Electrode (Pad) Unit

The electrical current in the body may adversely affect the baby, especially if current runs through the abdomen.

Radiant Plasma Unit With Radio Frequency

The answer is *no*, for reasons similar to those given previously for pacemaker wearers.

Radiant Plasma Unit Without Radio Frequency

Rifers recommend a radiant unit lit by high voltage rather than radio frequency. See **Types of Frequency Devices** later in this chapter for details on machines that use RF.

Your unit may come with an optional foot plate for grounding. This is similar to an electrode. *Therefore, do not use the foot plate.*

If You Are Nursing

Nutrients that the mother ingests, chemical pollutants to which she is exposed, and the hormones she secretes, migrate to her milk to become part of the baby's diet. Although I have not heard any reports of babies being harmed from nursing when their mothers are using rife equipment, it's probably a good idea to avoid combining the two. *If you are nursing, there's still a way for you to give yourself rife sessions if you need them*. Express (pump out) extra breast milk before you start rifting, and refrigerate or freeze the milk. (Although freezing destroys some of the nutrients, it may be necessary to freeze the milk if you plan to rife over a long period.) This will give your baby an adequate milk supply during the period that you're

using the machine. To prevent your milk from drying up, pump your breasts as often as necessary during the rifting period, and throw away the milk because it might contain too much pathogenic waste. As soon as you feel well again, you can stop rifting and resume nursing.

If You Have Blood Clots

Electrode (Pad) Unit

Do not use contact electrodes, ever! Even small amounts of electrical current can cause some compression in the muscles, lymph and blood vessels. If you have a clot in a blood vessel that's near the electrode, and the clot breaks off into small pieces and travels through the bloodstream, it can lodge in the brain and cause a stroke.

Radiant Plasma Unit, With or Without Radio Frequency

This is safe, as the frequencies are delivered via an electromagnetic field instead of compression waves that are created by an electrode device (see above). Nevertheless, if you have a history of blood clotting or strokes and are concerned, first check with a holistic doctor, naturopath, osteopath, or other professional who's knowledgeable about Rife Therapy.

If You Are Taking Pharmaceuticals, Herbs, or Nutritional Supplements

Many electromedical devices can augment the effects of drugs or even natural substances such as herbs, vitamins and minerals. This is because the equipment causes increased electron flow in the cells—synonymous with charge or energy—resulting in heightened permeability of the cell membranes (called *electroporation*). If nutrients, herbs and medications can cross the cell membrane more easily, lower amounts are needed to do the same job.

If you are taking the prescribed dose of medication, and your tissues are now more receptive, rifting without monitoring the dose's effects may give you problems and cause effects you don't want. Even nontoxic herbs may cause undesirable effects by being more readily absorbed.

Therefore, if you're rifting while taking vitamins, minerals or herbs, monitor how you feel. If necessary, ask your practitioner to help you adjust the amounts you're taking. If you're rifting and receiving chemo for cancer, *make sure to tell your doctor so your chemo levels can be monitored and lowered if necessary!*

(Incidentally, more electron flow is also synonymous with increased oxygen. This means that the cells, instead of abnormally clumping together—common in people who are ill—are now more separate and functional.)

If You Are Wearing Metal Implants, Stents, or Breast Implants

Metal Implants

This pertains to both ferrous (which contain iron) and non-ferrous metals (such as titanium). The items may be wire mesh (screens in the abdominal area to repair hernias) or screws (used for hip replacements). You might feel warmth and tingling in the implant area, caused by the transfer of energy (called *inductive coupling* by engineers) within the metal object. Depending on the signal's wavelength, a metal implant might receive the signal because—like the DNA in biological tissue—it acts as a miniature antenna and resonates to that signal.

Metal implants could attract too much current from electrodes, but they don't react to plasma. If the area feels warm, there may be internal burning. In such cases, Jimmie Holman explains, “use different frequencies entirely or reduce the session time, possibly separating one longer session into several shorter sessions.”² Nevertheless, people with metal implants have reported safely using not only radiant plasma, but also electrode units; so it depends. Only on *very rare* occasions is rifting not possible.

Stents

A stent is a tube-like structure inserted into blood vessels or ducts to dilate them. Although stents are generally composed of wire mesh, rifers report having no problems—probably because the implant is quite small, especially compared to the wavelength. Thus the energy absorbed by the stent would be negligible. Nevertheless, be alert to possible symptoms similar to those from other types of metal implants. Stop rifting immediately and notify your doctor if you experience discomfort.

Breast Implants

No problems with any type of unit have been reported for people with silicone implants. However, silicone is quite dense, so it may be harder for the frequencies to penetrate the area. You may need to spend extra time rifting near areas containing such implants. More time may also be needed with the newer style breast implants that contain saline and are covered with silicone.

If a woman says, I am getting these breast implants to gain self confidence, then I have to ask, What kind of a society do we live in where a woman's self-confidence depends on having a dangerous, expensive and painful operation on a perfectly healthy body?

—Katha Pollitt
American poet, essayist, and critic
(born October 14, 1949)

If You Are Especially Sensitive to High Levels of Concentrated Electromagnetic Radiation

Some forms of electromagnetic (EM) radiation are so harmful, they have a name: *electrosmog*, often referred to as *EMF* (short for *electromagnetic fields*, which in the popular lexicon is used to indicate detrimental characteristics). Harmful EM fields are generated by virtually all electrical appliances: air conditioners and heaters, airport scanners, washers and dryers, fans, electric shavers and hair dryers, kitchen appliances (dishwashers, blenders, mixers, electric ranges, toasters, microwave ovens and more), power tools, lights (especially those using compact fluorescent bulbs), TVs and audiovisual equipment such as stereos (including bluetooth), and vacuum cleaners. (Anything with a motor creates a magnetic field that can exert harmful effects on living organisms.) Still more items we consider indispensable to everyday living emit particularly high levels of electrosmog: computers and monitors, cell and modular phones, WiFi, and our iPads and similar devices. So-called smart meters emit particularly lethal EM radiation. (See Sidebar, “*Electrosmog or Electromedicine?*”)

The emissions from radiant light devices are usually experienced as beneficial, and adverse reactions are not too common. Sometimes rife sessions may rectify whatever is causing or contributing to your sensitivity, but being in front of most frequency devices—especially if they utilize RF (radio frequency) signals as carrier waves—may increase your sensitivity and make symptoms worse. (Devices that do and don’t use RF, and what this actually means, both technically and for your health, will be discussed shortly.) Everyone is different. If you are highly sensitive, ask detailed questions of device manufacturers to find a unit (if any) that suits your needs.

By the way, modern homeopathic remedies have been developed to help people deal with EM sensitivity, so consider consulting an experienced homeopath.

If You Cannot Adequately Eliminate the Toxic Waste Materials Released by the Rife Sessions

The importance of drinking water while rifting cannot be overemphasized. Water prevents your system from being overloaded by microbial die-off.

This technology may be less effective, and in some cases may actively harm you, if your kidneys, liver, colon, lymph system or immune functions are substantially impaired. If you don’t know whether you can handle the effects of rifting, consult with a health care provider who is knowledgeable about cleansing. You may have to build up one or more avenues of detoxification before giving yourself sessions.

If You Have an Organ Transplant and / or Are Taking Immunosuppressive Drugs

Even with the donor and recipient perfectly matched, from the perspective of the immune cells, the new lung, heart, kidney or liver is foreign and doesn’t belong. The immune cells react to the foreign tissue as they react to a pathogen: they try to eliminate it. Therefore, all organ recipients are prescribed a lifetime of immune-suppressing drugs that dampen the body’s natural immune response.

Suppressing immune cells makes one highly susceptible to infection. Thus, the frequencies can be very helpful because they disable harmful microbes much more easily than the organ recipient’s own immune cells can. Another benefit of rife sessions for organ recipients is added energy. A frequency device increases the cell’s electrical potential, or communication across the cell membranes. The body of a transplant recipient is in a delicate state, so it requires considerable energy to maintain homeostasis. However, if a frequency is used that boosts—rather than simply supports—immunity, this may overstimulate the immune cells. Hence, researchers sometimes disagree on whether rifting for organ recipients is advisable.

One manufacturer of equipment that uses a radio frequency (RF) carrier wave has organ transplant customers who report success. However, some people are negatively sensitive to RF (even if it carries healing frequencies), and the cumulative overload of electrosmog may cause, in highly stressed individuals, unwelcome reactions to the RF in a rife machine.

Experiment at your own risk, and consult a doctor.

If You Want to Give Sessions to an Infant or Young Child

Reliable statistics on the effects of rife technology on infants or older children do not exist in the US. There are good reasons for this lack of data. In the last decade, parents pursuing holistic treatments for their offspring—often at the child’s request—have been forced by government authorities to vaccinate the child; medicate the child with Ritalin® or Prozac®; or forcibly subject the sick child to chemo, radiation, surgery or other allopathic treatments under threats that the child would be removed from the home if they did not comply. It’s not surprising that many parents who give their children rife sessions don’t tell their doctors.

Therefore, with only parents’ anecdotal reports of successfully rifting their children as a guide, we must make an educated guess as to how rifting will affect a particular child, based on what we know about rifting and children’s response to illness. German naturopath Harald Sievert

writes: “In my opinion, children are far more resilient than we adults believe. This is clearly demonstrated in our therapeutic measures where children eliminate better, react quicker and produce positive results more rapidly with holistic treatment.”³ This suggests that a child will be able to handle the microbial die-off from a session.

Rifing infants should be done on a case-by-case basis, as infants are fragile. The brain and nervous system, digestive tract, reproductive organs, endocrine system, and immune function are immature and still developing.

Nonetheless, should your child ever be ill enough for you to consider a doctor’s prescription for antibiotics, this may be the time use Rife Therapy instead. Unlike drugs, rifing does not contain chemicals that poison the body. Many parents have reported success with infants as young as just a few months old.

If my infant or young child had a dangerous disease for which a doctor wanted to administer toxic drugs, I would first try Rife Therapy. A dangerously high fever—which can cause brain damage if it persists—is another problem for which Rife Therapy could be useful. However, unless the child is excessively uncomfortable or severely ill, it may be unwise to use the technology for routine and relatively mild childhood illnesses (such as the German measles). Illness stimulates the child’s system to produce antibodies (proteins that catalyze the body to defend itself against noxious foreign microbes). Once the antibodies are produced, the system’s immunity to those particular pathogens is established, and the body can better protect itself against these and other diseases in the future. Like a muscle that becomes stronger when given a moderate workout, when the immune function is “exercised,” it matures and strengthens. If not given the chance to recognize foreign microorganisms and deal with them on its own terms, the body as a whole becomes weaker and less efficient. Many holistic practitioners believe that the milder childhood illnesses can help the body through tougher times later.

Also, as Dr. Sievert points out, children and adolescents have different health issues than do adults. These include “latent susceptibility to infection, lacking in vitality, tired, poor concentration, [and] allergic stress.” He writes that children also “suffer from digestive disorders, lack of appetite and frequently exhibit deficiencies. We generally find a combination of food allergies and latent intolerances, infestation with intestinal fungi, often already at the chronic stage, with attendant dysbiosis together with post-vaccinal complications and inherited toxic stress, energetic blocks, etc.”⁴ Finally, Sievert reports, children and adolescents “increasingly display a tendency to relapse. This leads to chronic processes which may manifest themselves in long-term disturbed development. You only have to

think of the alarming rise in ADD and ADHD.”⁵ This information can be helpful in deciding which programs to use when giving your children rife sessions.

If you have any questions about the advisability of rife sessions for your child, consult with a health care provider who is supportive of holistic methods.

For a child, I believe that it’s better to use plasma than electrodes. The different types of machines are discussed in detail later in this chapter. If you are using a plasma tube device, run each frequency for the same amount of time as you would for an adult.

Anyone who rifes should drink fluids. It can be a challenge to get enough mineral-rich water into the infant to flush out toxins; so substitute liquid foods such as chicken soup, low-sugar vegetable and fruit juices, or raw milk. Even though most of these fluids are digested as food, at least some liquid will be available to help the body flush out wastes.

Should you decide to give rife sessions to your infant or child, include organ support frequencies. Consult a doctor, if necessary, to corroborate the child’s detoxification abilities. And consider gentle supplementation such as transfer factor (see Chapter 1, page 129).

If You Want to Give Sessions to a Pet, Farm Animal, or Zoo Animal

People rife their pets. Dogs and cats are the most common session recipients; but so are rabbits, hamsters, mice, and birds. Many rifers have told me that they initially bought a device for their pet; but the animal improved so much, they began using the equipment for themselves. The humans were impressed that the animals would jump on their laps or sit on the floor next to the equipment, apparently waiting to be rified. Many rifers report that pets are attracted to, and soothed by, the radiant plasma.

Some holistically inclined farmers use this technology for their cows, sheep, goats, pigs, chickens, ducks, and other animals. Veterinarians are quietly rifing animals as well, in their practices and at zoos. One vet called me to report that she used a frequency device to help a lion at a nearby zoo that was entrusted to her care. The lion improved considerably from the sessions, and with the addition of herbs, homeopathy and special foods, he soon became well. There’s also a growing market for rife machines in the show horse and race horse industry. A lot of this equipment is being used in conjunction with LED and soft laser attachments (discussed later in this chapter).

If your animal is seriously ill, consult a vet to make sure it can handle the microbial die-off from the session. Like humans, animals need to drink more when they’re being rified—otherwise, toxic waste can build up. If the

animal won't voluntarily drink more water, put more liquid into the food or give the animal liquid foods—such as chicken soup for dogs or (preferably raw) milk for cats. Some dogs will drink more when colloidal silver is put into their water dish instead of their usual water. Homemade colloidal silver, with its natural antimicrobial and cell rejuvenation properties, is an excellent adjunct to Rife Therapy. Plus, it's inexpensive to make. Don't feed colloidal silver internally to ruminant animals, however; these animals depend especially on gut bacteria for digestion. Ruminants include cattle, sheep, goats, deer, elk, camels and llamas. See Chapter 3 for more details.

TYPES OF FREQUENCY DEVICES

People often ask me, “Where can I find a rife machine?” as if there existed a single device. There are many units, made by different manufacturers, that operate on rife technology principles but all are somewhat different. A Rife machine is a serious purchase—after all, the buyer might be gravely ill—but a useful analogy can still be made to buying a refrigerator. There are different styles of refrigerators. The freezer might be on top, on the bottom, or on the side. The refrigerator may or may not have an ice maker or cold water dispenser. The temperature control dial can be in the back or on the side, and so on. Similarly, frequency units can have many fancy features or only those considered essential. Users must decide what they need.

Basic Unit Construction

Whatever style you buy, the unit will basically consist of:

- ◆ The body of the unit (usually around 1 to 3 square feet, but sometimes larger), containing a computerized *function generator*. Usually the electronic components are housed in one box; but sometimes the components may be housed in two or more different containers, either side by side or stacked on top of or next to each other. (A recent development is a very small function generator controlled by a personal computer or palm computer.)
- ◆ Built-in dials, push buttons, and/or numbered keypads to program the unit.
- ◆ Display panel, usually digital. Occasionally, the device comes with a full-size computer screen. The display shows the frequencies programmed into the machine, the time period for which the frequencies have been set, and other information.

- ◆ Frequency transmitter. This may consist of metal electrodes (in various shapes and styles), or a plasma light tube (which can be freestanding or hand-held). Sometimes a unit will have a combination of the two. Occasionally, a frequency device has LED accessories as well (discussed later in this chapter).

A good frequency device should be well made, easy to use, have a warranty with an accessible manufacturer or dealer in case the unit needs repair, and (very important) sufficiently drive the signal into the body so the frequencies can be utilized. Within these parameters, there are lots of devices on the market today that are called “rife machines.” Here is an overview of the different styles, with their advantages and disadvantages.

Mandatory Features of All Units

Effective frequency devices might do the same job, but they can be made differently and have different features. Following are the most desirable features for a frequency device.

Reliable Frequencies

It's important that what you program into the unit, what the display panel says has been programmed into the unit, and what the unit is actually emitting, are identical. Some people have specially designed test equipment to measure what frequency is coming from a machine. However, if you don't have such equipment yourself—and most people don't—you must rely on the company's word that the device is accurate. Can you trust the manufacturer's integrity? And his or her skill to build a quality unit? You might ask, “Do you test each machine to make sure it's delivering what it's supposed to? What measuring equipment do you use?”

Signal Acceptance by the Body

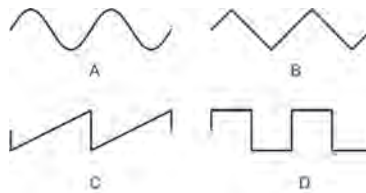
The goal of all equipment should be a safe signal that will penetrate the body in a way that the body will accept.

Too many people believe that more is better, bigger is better, more powerful is better. But blasting that harmful microbe with everything you've got, usually means bombarding the body; and this isn't optimal or even effective. It's understandable if rifers are tempted to blast, because people who are ill want to feel better immediately. However, *the body's receiving the signal doesn't necessarily correspond to higher power levels*. In fact, with biologically based medicine, the opposite is usually true. An excessively strong signal may be the wrong kind of output when the force of the signal is incompatible with

Signal Penetration: *Wave Shapes, Harmonics, and Duty Cycles*

One of the most common questions asked by rifers relates to signal penetration. What, besides the correct frequency, allows a signal to penetrate the cells of the body, kill pathogens, and stimulate the system's healing abilities? The answer relates to the shape of the wave, the harmonics of the frequency, and the duty cycle. I promise to make this as painless and understandable as possible. So, let's examine each in turn.

Wave Shapes. The *shape* of the wave determines whether it will penetrate the tissue. Below is a diagram of four waveforms often used in frequency devices. The most common waves are sine and square, although there are variations of these waves. Each shape has unique characteristics. (For more information about the electromagnetic spectrum, See Appendix C, "Healing with Electromedicine and Sound Therapies.")



Waveforms
(A) Sine; (B) Triangle; (C) Sawtooth; (D) Square

Please note: these shapes are not simply visual metaphors. *They are the actual wave patterns as seen on an oscilloscope* (a machine specially constructed to visually depict waveforms). *The shape is a literal indication of what the wave does and how it performs*, because each shape graphically represents the rise and fall times of the energy.

- A. Sine wave gently slopes; there is nothing angular about it.
- B. Triangle wave is pointy at the top, as though the energy were thrust or transmitted suddenly, like a knife.
- C. A sawtooth wave, which looks like the teeth of a saw, acts like a triangle wave and is similarly pointy.
- D. Square wave is very different from the other waves. It takes a very brief period for the energy to reach its maximum power level (this is called a rapid *rise time*). However, once the power is at its highest level (the horizontal line at the top), that level is maintained for a specific duration of the cycle. (One cycle is one complete wave.) The cycle is complete after the power level abruptly drops to zero and the next wave pattern begins.

Here's an analogy describing how these various wave signals perform, and how the body physically responds to them. If you put your hand on someone's back and exert a steady pressure, she will shift her weight and learn to compensate for your push. The relatively slow rise and fall times of a sine wave gives the body a chance to recognize, make adjustments for, and eventually ignore the signal. If, however, you suddenly push that person with the same amount of pressure, she will fall. The sudden thrusting quality of triangle and sawtooth waves takes the body by surprise. Similarly, the rapid rise and fall time of a square wave does not give the body a chance to compensate. However, the flat top line of a square wave means that after the body is taken by surprise, there is a relatively long period when the signal is steady. The body (and pathogens) may or may not reject the signal.

The shape of the wave is important not only because of the rise and fall times of the energy. The wave shape is also important because of the *harmonics* it produces.

Harmonics. *Harmonics* are clusters of wave patterns that are produced by the fundamental (main) frequency. *Harmonics are always higher than, and mathematically related to, the original frequency.* (*Subharmonics* are mathematically related, lower frequencies of the original number.)

Harmonics are created from the fundamental frequency similar to the way ripples are produced when you drop a pebble into a pond. The fundamental frequency is like the indentation in the water where you dropped the pebble. The water rippling out in circles is like the harmonics. Just as the ripples in the pond are *fainter* the *farther away* they are from the pebble, in harmonics the *power* that's available *decreases* the *farther away* (*higher*) they are from the main signal. Harmonics are always weaker in power than the fundamental frequency that produces them.

When you're using a signal with harmonics, the overall energy is being utilized for *both* the fundamental frequency *and* its harmonic frequencies. Therefore, the power of each individual frequency (waveform) is greatly lessened because it's sharing power with so many other waveforms.

When rifting, if you know the Mortal Oscillatory Rate (MOR) of a pathogen, you'll get better results if you focus all of the energy on a single waveform that doesn't dissipate energy on harmonics spread out across the EM spectrum. But if you're not certain of the MOR—or if the MOR is higher than what your unit can output—harmonics can be useful, as one of them may bring you close to the MOR. Scientist and machine builder Jimmie Holman hypothesizes that the harmonic output may be the reason that some modern frequency devices work better than others.

Let's examine specific waveforms to see what kinds of harmonics they are capable of creating.

- ◆ **Sine wave.** A sine wave does not contain significant harmonics. If you're absolutely sure what frequency is required to kill a pathogen (its MOR), a sine wave may be a good choice. However, pathogens mutate. And each person's body is slightly different, which can change the terrain in which a pathogen grows. Thus, the outcome is not guaranteed.

A sine wave is commonly used to regenerate tissue rather than kill pathogens.

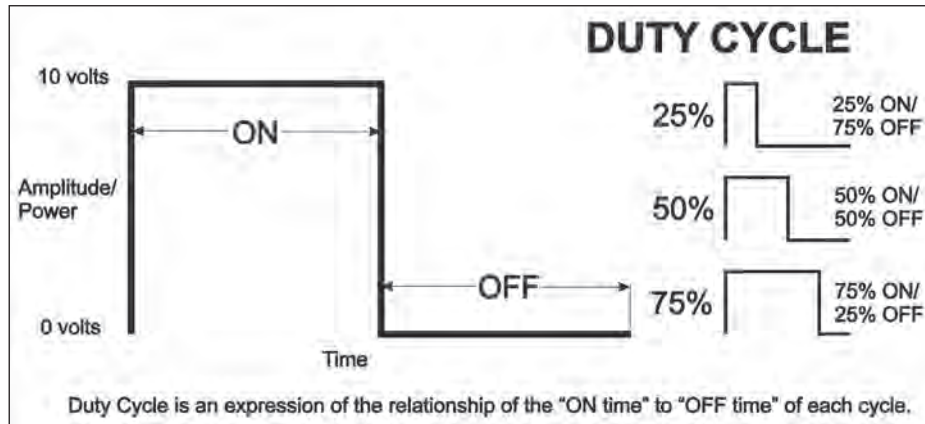
- ◆ **Square Wave.** Of all the waveforms, the square wave is the most rich in harmonics. The harmonic frequencies of a perfectly symmetrical square wave are odd number multiples—1, 3, 5, 7, 9, 11, etc.—of the fundamental frequency. (If the square wave has a duty cycle that's lower or higher than 50%, there will be other harmonics, including even-numbered harmonics. See the next page for a discussion of duty cycle.)

If the actual MOR is known, and the equipment can deliver that frequency, a sine wave may be preferable because all power is delivered at that frequency. However, if the MOR is *not* known, and/or the unit cannot reach the higher ranges, a square wave may be the best choice because its harmonics provide a good chance of reaching the target MOR. Some of the square wave's energy is focused on the fundamental frequency, but even more energy is distributed to the harmonics. Be aware, though, that the farther away each harmonic is from the fundamental frequency, the weaker the signal becomes. Especially at the 13th harmonic and above, the signal is so faint that the MOR is no longer effective. Due to this dissipation of power, so much time per frequency might be required that sessions are no longer practical. Nevertheless, with a very few exceptions, square waves remain the favorite shape in the rifting community. Its fast rise times decrease the chances that the body will become resistant to the signal.

Most Rife researchers prefer a square wave when dealing with pathogens.

- ◆ **Triangle Wave.** The triangle wave contains some harmonics, the majority of which are clustered close to the fundamental frequency. Almost all of the wave's power is within this close cluster. (Using the analogy of the stone thrown into the pond, most of the ripples are nearest to where you threw the stone.) This can be a good choice of waveform to use if the frequency being generated lies within close range of the MOR.
- ◆ **Sawtooth.** A modified triangle wave, it's available only in specialized instruments to optimize certain effects. A sawtooth wave produces a relatively strong 2nd harmonic, and has a rapid rise and fall time. This is believed to make it quite effective against pathogens.

Duty Cycle. Some rifers believe that to achieve the highest success rate, odd harmonics should be generated with a particular *duty cycle*. A duty cycle is the ratio—expressed as a percentage—of the amount of time an *individual cycle* is *on*, compared to the amount of time it is *off*. For example, a square wave with a duty cycle of 50% is on half of the time, and off half of the time, per cycle. A square wave with a duty cycle of 60% is on 60% of the time and off the remaining 40% of the time, per cycle. And a square wave with a duty cycle of 75% is on 75% of the time and off the remaining 25% of the time, per cycle.



Note that duty cycle clips a portion of *each individual wave*, changing its shape by making it dip sharply up or down. Don't confuse it with *gating* (sometimes called by the less precise, non-engineer term *pulsing*), which briefly stops the transmission of *groups* of waves. Thus, gating allows some—but not all—of the waves through; and of the waves that do come through, only some are left intact.

Rife researchers differ as to which duty cycle gives the best results. Dr. Jeff Sutherland finds a 50% duty cycle sufficient for most organisms except *Candida albicans*, for which he uses a 10% duty cycle in a unit set to a square wave. Device manufacturer Jimmie Holman maintains that duty cycle may not be important, depending on the method of application (contact or radiant plasma), the frequencies being used, the shape of the wave, and how that wave is produced. One researcher publicizes elaborate and varied duty cycles for just about every disease. Perhaps the best guide is from Dr. Richard Loyd, who offers a basic (and apparently successful) formula that allows rifers to easily adjust duty cycle for any given situation. He raises the duty cycle the higher the frequency. Note that this is for EMEM (short for ElectroMagnetic Energy Machine) units:

- ◆ 30% for up to 6 Hz
- ◆ 50% for 7—150 Hz
- ◆ 70% for 151—440 Hz
- ◆ 75% for Hz settings higher than 440

Despite the above formula, be aware that results can vary greatly depending on the machine that's being used.

There's a lot more to rifting, and to good equipment, than is generally recognized. "As we understand better the mechanism of how our devices interact at the systemic, cellular, molecular, atomic and even subatomic levels," writes Jimmie Holman, "we can produce more effective results through selection of waveforms, circuitry and components."⁶ Both the frequencies *and* the delivery system influence the effects on the body. As we learn more about what makes rifting successful—and use different devices and frequencies—duty cycle may not play as key a role as it does now.

the more nuanced energy of living cells. *If the body does not like the signal, it will become resistant to it.* The cell membranes will literally shut down bioelectrically and biochemically, and block the signal.

For optimal results with rife equipment, the signal must be readily passed from cell to cell so the tissues are *beneficially affected* at the same time that the pathogens are being destabilized (assuming that the signal is meant to affect them). Thus, a unit with the most power is not necessarily a good investment. You want a signal that's effective, and not simply forceful. (Note that there are two categories of power: what the unit draws from an electrical outlet or batteries, and what the device transmits to the user. So when claims about a unit's power are made, you need to know which type is being addressed.)

Although signal acceptance is a simple concept—the organism either receives the frequencies or it does not—there are several factors, more than one might think, that influence whether or not this takes place. As Jimmie Holman observes, “The smallest changes to circuitry and components can dramatically affect the efficacy, operation and performance of the frequency device. Even slight manipulations of the waveform can have beneficial effects. It's the delivery system as well as the frequencies themselves that determine what the effects on the body will be.”⁷ Thus, many companies equip their devices with settings that allow the user to select from a variety of wave shapes. For the theory behind waveform selection, see the Insert beginning on page 523, “Signal Penetration: Wave Shapes, Harmonics, and Duty Cycles.” Learning the theory is not essential to operating your machine, though; you can always read it later if these details are more than you want now.

Programmable Duration

Normally, for each frequency, a unit requires between one and three minutes of *dwell time*, or the amount of time the machine stays on or focuses on a frequency. The amount of dwell time that's needed depends on the penetration power of the unit, the subject's receptivity to the signal, the degree of pathogen resistance to the signal, and the condition being treated. In general, when a difficult condition is being addressed, such as cancer, longer periods are required. It's common to linger on a single tumor-dissolving frequency for 30 minutes or more. Frequencies for pain similarly require a long period. The time needed for each frequency may vary greatly. This makes rifting not only a science, but an art.

Many Frequencies in Succession (Memory)

All professionally manufactured Rife Therapy devices allow the user to program many frequencies in succession, and then sit back while the unit delivers them. This requires building more electronics into the unit, including a memory chip. However, some rifers, wanting to save money, buy cheap machines “at cost” that require the user to manually enter each frequency. For example, you program the first frequency to run for 3 minutes, the machine stops, you program the second frequency to run for 3 minutes, the machine stops, you program the third frequency, and so on. With this system, you are focused on programming and aren't able to relax while the machine is running. I think it's worth the extra money to get a unit with memory.

Sweep Function

Holman defines sweeping with an analogy: “the shifting of frequency to either side of a central frequency, or the constant shifting of frequency between two separated frequencies, in much the same way one might envision a windshield wiper shifting back and forth to cover a larger area.”⁸ The range on either side could be 1 Hz, 10 Hz, or more. Sweeping is desirable because pathogens can mutate, and the most common number might miss its target by even just a little bit. Or, the machine operator might not be able to decide between two frequencies that are very close together. Or, there might be some frequencies fairly close together (for example, 453, 458, 465), and the subject wants to target them all, plus everything in between. The better frequency devices include a sweep feature. Later in this chapter, different types of sweeps are discussed. Some might be more effective than others, depending on the particular machine being used.

Freestanding Radiant Plasma Unit

History

The first radiant device on record (which also featured electrodes) was invented by Nikola Tesla, although Royal Rife popularized, modified, refined and promoted its use. Rife's machine was huge and heavy, expensive to build even by today's standards, and difficult to calibrate and maintain. Today's units are smaller, less expensive, and much easier to operate. The engineering is also quite different. For example, whereas Rife used tube technology (not to be confused with the tubes that contain the noble gases to create plasma), today we use transistors.

Frequency Emitting Component (Tube)

Most freestanding radiant plasma units have a single tube that rests in, on, or near the machine. Its length usually ranges from one to three feet. The tube can be cylindrical, round, or have a bulge in the middle. The tube on Royal Rife's original ray device got very hot, emitted RF, and couldn't be touched. Some freestanding plasma tubes on modern units also become hot, but others don't, depending on how the machine is constructed.

The gases inside the tube are usually argon and neon, sometimes with krypton or other gases added. One manufacturer exclusively uses argon to give the machine a greater photon emission capacity. Helium, which emits a soft purple-blue glow, is a favorite of some engineers because it conveys the desired field and is cool to the touch. Each gas possesses a different intrinsic quality. Some rifiers prefer the feeling of one particular gas over another, while other rifiers can't tell the difference.

On rare occasions, a manufacturer was known to put mercury into its tubes. Mercury is one of the most

poisonous elements on the planet. In its plasma state, mercury emits wavelengths that are readily absorbed by DNA and RNA. A tube made of quartz blocks only about 15% of the mercury emissions. This means that 85% of the emissions come through the glass. Pyrex[®] blocks about 90% to 92% of mercury emissions, while leaded glass blocks virtually all of the emissions. However, even if you are confident that the glass will remain intact, it seems foolish to use a poison as part of the frequency emission process: rifting is, after all, an energetic therapy. Ask the manufacturer what gas is used.

Power and Frequency Emission Range

As discussed in Chapter 2, Rife's very first ray units transmitted the frequencies via very powerful, high frequency signals that oscillated in the MHz (megahertz) range, hundreds of thousands of Hz. After the Federal Communications Commission outlawed the use of such high radio frequency signals by unlicensed parties, the Rife Ray design was changed. Among other modifications,

The Unique Properties of Plasma

Rife's radiant light devices utilized plasma to deliver the frequencies. But what, exactly, *is* plasma?

Plasma is often referred to as "the fourth state of matter," the other three states being the more familiar solid, liquid, and gas. Although naturally-occurring plasma does not commonly exist on Earth, it's actually the most abundant form of matter in the universe, as most stars—including our sun, which is a star—are in a plasma state.

Plasma is formed when certain gases are *ionized*. During ionization, the electrons in the outer shells of the atoms of these gases are transformed into positively and negatively charged particles called *ions*. Normally, the outer shells of the atoms in gases are already filled with the maximum number of electrons possible. This does not allow these gases to chemically combine with other elements. Therefore, when these gases become ionized, rather than combining with other elements, the only state they can achieve is to transform into another material entirely: plasma.

In order for ionization to take place, the outer-orbit electrons of the gas must be hit by *free electrons*. These free electrons can be created from several sources. Among them are intense heating, a strong electromagnetic field induced by microwaves or a laser, and a spark induced by electrical current. Rife created plasma by sending electrical current into a gas-filled tube. This current bombarded the gases with free electrons, thus ionizing the gas and transforming them into plasma. (In a plasma tube with an electrical current running through it, negatively charged particles and positively charged particles are attracted to, and collide with, each other. The collisions cause the release of *photons*. Photons possess the properties of both waves and particles, and have energy and movement, but no mass or electrical charge—and do not decay.) When the gases are excited by electrons, the plasma is "ignited."

Only certain gases called *noble gases* can be transformed into plasma. These gases are argon, helium, krypton, neon, radon, and xenon. Radiant plasma tubes used in frequency devices use either one gas, or a combination of gases. Interestingly, the atomic movement of unexcited gases is random and the emissions are incoherent. However, the atomic movement of plasma is exceptionally coherent—in a spiral.

Much of the technology that Royal Rife used in the 1930s for his frequency devices was from other scientists. On February 6, 1894, a US patent (number 0,514,170) for a plasma lamp had been issued to Nikola Tesla.

Clearly, plasma behaves very differently from gas. The charged particles that comprise plasma emit light and many other forms of electromagnetic radiation. And it's through the plasma-generated electromagnetic field that the frequencies are transmitted. If the plasma reverts to gas 24 times a second, it emits a frequency of 24 Hz. If the plasma reverts to gas 144 times a second, it emits a frequency of 144 Hz, and so on.

Rife's machine emitted harmonics in very high ranges, which targeted the pathogens as accurately as if the high-range fundamental frequency had been used. Modern researchers are working on ways to duplicate the benefits of Rife's machines without relying on such high RF. Some companies use RF carrier waves at a very low power. Alternatively, high voltage may be forced through the noble gases. Either high frequency or high voltage can excite the gas molecules inside the tube to a greater state of energy.

Regardless of what's used to light the tube, the laws of physics dictate how far the frequencies can reach. The strength of the signal exponentially decreases the farther away you are from the machine. For every 12 inches you move away from the light tube, you lose four times the power.

Some manufacturers of tube units recommend being as close to the unit as possible, and no farther away than 8 feet for maximum effectiveness. Others advise the subject to sit a minimum of 6 feet and up to 12 feet away, to eliminate any possible ill effects from the strong electromagnetic field without loss of effectiveness due to distance.

Some people can feel the effects of the frequencies even as far as 20 feet from a machine. Once, a visitor could tell that I'd recently been running my unit even though it was switched off by the time she entered the room! A residual discharge that she could sense had apparently remained.

How the Unit is Used

The user sits or lies down, or sometimes stands near the tube without touching it.

Advantages

The obvious advantage is that with the hands free, the person can read, knit, watch TV (not always the best choice), or do other things while the machine is running. (When really pressed for time, I sometimes cook dinner while my machine is on; but this way of rifting isn't optimal.) Most important, if more than one person is in the room, everyone can benefit from the therapy if they all need the same frequencies. Someone who doesn't need the frequencies that are being broadcast will not be harmed; there will simply be no effect.

Another obvious convenience is the ease of treating animals. Simply place the machine close to where they're resting. A unit that doesn't require the user's direct participation is also handy for treating small children. Ask the manufacturer how far the field extends, so the subject is close enough to the unit to receive the transmission.

Disadvantages

There's only one possible disadvantage to a radiant plasma unit that I can think of, and it affects only a few very sensitive individuals: mental and visual disorientation from the flickering light tube. The flicker occurs only when frequencies lower than 20 or 30 Hz are being emitted. At such low oscillation rates, the movement of light is slow enough to be discerned by the naked eye. However, this problem is unlikely, because the engineering in most radiant plasma units makes it difficult (if not impossible) for the machines to emit frequencies in such low ranges.

Aside from the abovementioned effects of these very low frequencies, a fair number of experimenters experience visual disturbances when the equipment is using the *gating* feature (sometimes called "pulsing," discussed later in this chapter). These disturbances can occur when the unit is transmitting any frequency. The solution is simple. If the light is flickering and it bothers you, look away, or close or cover your eyes. The frequencies work whether your eyes are open or shut.

Hand-Held Radiant Plasma Unit

History

The tubes on Royal Rife's machines got too hot to touch because of the very high-energy, high-frequency RF (radio frequency) fields. Some modern tube devices can be held because they don't utilize these exceptionally high frequency fields. If they do emit RF, it's at a low enough power level that the tubes can be touched.

Frequency Emitting Component (Tube)

A handful of device manufacturers design machines with "cold" tubes that can be either held by the user or used in radiant mode with the user sitting a few feet away. One popular model contains two 6-inch long glass cylinders embedded in plastic. The rifer holds one tube in each hand. After the unit is turned on, the plasma inside the tubes is ignited by the user's skin contact with each glass cylinder. Because the tubes are creating a circuit that the user completes, it's important that they not be allowed to touch each other. If the person lets go of the tubes, or of even one tube, the circuit will be broken and the tubes will not remain lit.

Other devices run one or more tubes of the same electrical potential, together with a grounded foot plate or water bath as the return. (There must be at least one positive and at least one negative side to complete the circuit.) Having a "ground" can greatly increase the effects of the signal because the energy is drawn to the ground instead of dissipating into the atmosphere.

Although most tubes are cylinders or balls, one company offers a spiral glass tube to be worn like a bracelet for wrist injuries such as carpal tunnel.

Gases inside the hand-held tubes are generally argon, neon and krypton. Users often mention how good the tubes feel to them (as well as comfortably warm). There are reports that some manufacturers put mercury into their tubes. Mercury is among the most poisonous elements on the planet, something to consider if the glass ever broke. But even if the glass remains intact, as this is an energetic therapy it seems unwise to use a poison as part of the frequency emission process. Ask the manufacturer what gas is used.

Power and Frequency Emission Range

Frequencies from the contact light units have a radius of several feet. Therefore, someone close by who is not touching the tubes may feel the effects.

How the Unit is Used

Although the subject usually holds the tubes, s/he can also put the cylinders someplace else on the body (under the armpit, resting on the knees), or slip the tubes inside clothing. Two people can receive equal benefit of rifting if they sit next to each other holding hands, with the free, outside hand holding one tube. Although each person is holding only one tube, their joined hands are completing the circuit, thus allowing both to be treated.

Advantages

Some people don't mind being attached to a device. A few tell me they prefer holding the cylinders instead of merely sitting in the same room with a bulb because it gives them something to do. The simple act of holding a couple of cylinders helps them feel more in control of the session—and thus their illness, because feeling in control helps stimulate immune function. Also, if there's a specific area that needs work—a localized digestive disturbance, kidney infection, or tooth abscess—it may be more beneficial to place the tubes directly on the area.

I have seen mixed results with children. One man stopped giving sessions to his 7-year-old son when the boy insisted on using the glass cylinders as drumsticks, beating out a rhythm on the back of a chair. Fortunately, the glass is sturdy and did not break. It can be unreasonable to expect a child to remain still while holding the cylinders. However, sometimes this system offers an unexpected bonus. One woman had a 10-year-old son who was very resistant to even the idea of rifting until he saw the pretty lavender plasma oscillating inside the cylindrical tubes. He was so enamored of the dancing light show whenever

a new frequency flashed through the gases, that he exclaimed, “Really cool!”—and then became quiet. He fell asleep for the remainder of the session. If a child can initially be persuaded to sit still, the frequencies usually have a calming effect and the child may go to sleep. (This also applies to grown-ups.)

Disadvantages

There are obvious limitations of having to remain stationary to ensure that you don't accidentally knock over the unit. Also, some people are bothered by the plasma moving inside the clear cylinder—although, with the hands covering most of the glass and the option of slipping the tubes inside one's clothing, this is a minor issue.

Electrode (Pad) Unit

History

The freestanding tube from Royal Rife's original invention was placed within 6 inches of the subject. John Marsh and John Crane, who later worked with Rife to adapt the technology, replaced the tube with metal electrodes that touched the body. Modern electrode units, sometimes called “pad” units, are based on this design.

Frequency Emitting Component (Electrodes)

Modern electrode devices transmit frequencies in an entirely different way than plasma light devices. Frequencies are imparted directly into the body via electrical current that flows through two wires to electrodes that touch the user's body. The electrodes can be in the form of cylinders, flat plates, or small patches that stick to the skin. Optional equipment (discussed shortly) can be used in lieu of electrodes.

Power and Frequency Emission Range

Pad units transmit frequencies only to the person touching the electrodes. Other people in the room will not feel the effects of the frequencies.

How the Unit is Used

- ◆ *Cylindrical Electrodes.* About 6 inches long, they're usually hand held but can be placed elsewhere on the body—for instance, slipped inside the waistband at opposite sides of the abdomen. According to Richard Loyd, most toxins are removed by the hand (or foot) contacting the positively-charged electrode. He found that wrapping a layer of wet paper towels around the hand cylinders helps release toxins, which otherwise could bounce off the metal and remain in the body.

- ◆ *Foot Plate Electrodes.* These are thin, flat metal sheets on which the user places his or her feet. The arch of the foot usually creates a gap between the sole of the foot and the plate. The user can increase the amount of current flowing into the foot by placing a wet cloth between the soles of the feet and the foot plates. (This will also allow toxins to exit the body.) Plain water conducts electricity, but conductivity will increase even more if salt water is used.
- ◆ *Electrode Patches.* These flat, flexible pieces come in a variety of shapes and sizes, ranging from about ½ square inch to a few square inches. A thin electrode wire leads to the piece and the entire surface conducts electricity. The patches stick to the skin and are meant to be reused until the surface is no longer sticky. A neutral electrode conductive gel, applied to the inside of the patch, extends its life and permits greater conductivity.
- ◆ *Wet Pads.* A flexible metal sheet, placed inside a wet cloth, molds to the body when strapped on with ace bandages. Wet pads are usually used on the abdomen, lower back, and under the ribs to detoxify areas such as the colon, kidneys, and liver before using other frequency programs. A session with wet pads first may allow the body to more efficiently handle the waste materials produced by the frequencies. As with the foot plates, the cloth should be wet. Salt can be dissolved in the water for greater conductivity.
- ◆ *Pan of Water.* The cords of some units lead to simple alligator clips at the end, which the user attaches to metal pans containing warm water. The user rests the feet in the pan and receives the frequencies through the water. Use filtered water to prevent heavy metals, bacteria and other contaminants from entering through the skin. If you use distilled water, adding salt is essential to provide conductivity.
- ◆ *Optional RF Signal Emitter.* With a pad unit, signal penetration may be lessened because the skin tends to dissipate some of the electrical current. To ensure greater signal penetration inside the cells, one company sells an accessory RF (radio frequency) carrier box to use with the electrodes. This allows the user-selected, “main” frequency—which matches a specific pathogen or condition—to combine with the much higher RF signal. RF ensures that the signal penetrates deeply into the body. Because the RF is emitted directly into the body without traveling through the air, no Federal Communications Commission laws are broken.

Advantages

Some people don’t mind being attached to a device. They prefer holding electrodes instead of merely sitting in the same room with a bulb because it gives them something to do. The simple act of holding cylinders helps them feel more in control of the session—and thus their illness. (Feeling in control stimulates immune function.) Also, if there’s an area that needs work—a localized digestive disturbance, kidney infection, liver pain, tooth abscess—it can be beneficial to place the tubes directly on the area.

Electrodes have another advantage. When they contact an acupuncture point at the skin’s surface, energy appears to be transmitted to the entire acupuncture meridian associated with that point. Simply holding the electrodes in the hands can affect major organs, glands and systems, even those deep in the body. Users familiar with Chinese medicine can be highly effective with creative electrode placement.

Disadvantages

Electrodes devices restrict mobility, and some people are concerned about accidentally dropping the unit if they move suddenly. Perhaps the greatest disadvantage is the electrical current itself. Even at low levels, with some people the current stings, itches, or elicits a skin rash.

Don’t use a pad unit if you are wearing a pacemaker or have a heart condition. Sending any kind of current—whether carried by RF or not—through the body can upset the heart rhythms and seriously injure or even kill you!

Sweep-Only Units

A few machines, rather than being programmable for specific numbers, emit frequencies sequentially over a very wide range of thousands of Hz.

Earlier I explained that a sweep incorporates a (limited) number of Hz on either side of the main signal. The purpose is to catch stray or mutated pathogens whose oscillation rates vary slightly from the programmed number. A general sweep unit is not meant to target individual frequencies. But the manufacturer isn’t concerned with specific MORs. The premise is: if you don’t know which frequency to use, you might as well expose yourself to all of them.

People who don’t want to fuss with precision, frequency lists and more complex programming may find such a unit very helpful. In fact, some experimenters have successfully eradicated symptoms with this method. However, if you use this type of unit for the same amount of time that you would use a frequency-specific device, you won’t receive adequate coverage of the needed frequency from among the thousands emitted. This is why, when using a general

sweep machine, you must expose yourself to the emissions for a much longer period than when using a frequency-specific device.

Most of the higher-range general sweep frequency devices are not intended to devitalize pathogens, but to provide energy to the cells. One of many machines is the Multi-Wave Oscillator (MWO), which ranges from 750 KHz (kilohertz) to 3 MHz (megahertz), with additional harmonics up to 300 GHz (gigahertz). I'll briefly describe the MWO because other devices are based on its design.

The MWO was invented by Russian electrical engineer Georges Lakhovsky, author of the 1935 book *The Secret of Life*. Lakhovsky, observing the difference in the electrical properties of healthy cells versus unhealthy diseased cells, discovered that high frequency radio waves could energize malfunctioning cells. Each cell, due to its RNA-DNA spiral, acts as a transmitter and receiver of frequencies. A cell that's properly energized can absorb nutrients and excrete wastes more easily than non-energized cells. Be aware that the MWO and similar devices, although they use frequencies, are technically not considered "rife." Royal Rife was primarily concerned with destroying pathogens (or at least, this was what he publicized).

Frequencies on CDs, DVDs, and Home Computers

In this modern post-Rife era, some companies embed frequencies onto CDs (or DVDs) that usually can be played through an ordinary desktop computer.

An old form of frequency generation uses a PC's *internal speaker* (not the sound card, which is a built-in sound system common to most new computers and laptops). The internal PC speaker—originally designed by IBM to report the condition of the computer system by beeping—generates a beep under certain conditions. After finding that the beep can be manipulated with certain software, Rife researchers began experimenting with it for therapy.

Frequencies pressed onto a CD are played through a PC, which acts as the generator. The signal is eventually sent to a high voltage RF driver hooked up to the computer, which lights a plasma tube. Alternatively, frequencies from an internal speaker are played through a stereo audio amplifier; cables wired to the output jacks of the amplifier can be attached to hand and foot electrodes or to electrode patches.

Rife researcher and machine builder Brian McInturff advises that frequencies generated through PCs instead of equipment specifically designed for rifting are less effective because they're not as accurate. Jimmie Holman, inventor of the now discontinued "poor man's rife machine," explains why.

Coil Machines ("Doug" and Other Devices)

History

Neither Royal Rife nor his colleagues ever built coil units. In 1988, Panos Pappas invented the PAPIMI. In the 1990s, Doug MacLean developed the "Doug" Device to treat himself (successfully, he stated) for Lyme disease. With coil units, a generator attaches to a cable ending in a donut-shaped coil, which the user places on or near the body. Some units attach to external equipment that runs the frequencies. Coil machines emit a very powerful pulsed magnetic field. To output 15 Hz, the field goes on and off 15 times a second; for 200 Hz, on and off 200 times a second, etc. The safety of coil units depends partly on their power output.

Cautions

- ◆ The magnetic field from the coils can interfere with or permanently damage credit cards, hard drives, and computer-driven medical devices such as pacemakers, defibrillators, and insulin pumps.
- ◆ Coil units may cause excessive warming in areas where there are metal implants (stents, pins).
- ◆ The coils may overheat and create a fire hazard.
- ◆ Lack of safety is due to excessively high power levels in some units. The intense magnetic field has caused adverse reactions in people with heart conditions, and miscarriages in pregnant women. Consider that with magnetic resonance imaging (MRI) tests—to which coil units are sometimes compared (to assure users of safety)—the administrators of the tests are always shielded. Concerns about prolonged exposure are legitimate.
- ◆ Users may believe that they're experiencing die-off (Herxheimer) reactions when they're in fact reacting adversely to the unit. A die-off response abates as health improves, but with a constant "Herx," the unit is harming you (see pages 563–564).

Benefits for Some

The original PAPIMI, when used correctly and as designed, was very effective for promoting healing of injured joints, soft tissues, and limbs. There were also reports of cancer remissions. However, not all accounts were favorable. Similar mixed results are reported with more recent coils. However, one population that claims benefits from coils are Lyme sufferers. Because the *Borrelia* spirochete hides in the body fluids and tissues, it's difficult to treat. Lyme sufferers understandably want the extra penetration that coils provide. Nevertheless, caution is strongly advised, due to the potentially excessive strength of the magnetic field. A few plasma frequency units have the penetration power without the overload.

Electrical Terms for Non-Engineers

Voltage: The amount of electromotive pressure, or force, that's driving the signal. Measured in volts or voltage. The higher the voltage, the larger the amplitude, or height, of a wave; and the more intensely you'll feel the signal. The lower the voltage, the smaller the amplitude of the wave; and the less intensely you'll feel the signal. It's like the difference between a little wave and a huge tidal wave at the beach. The tidal wave has a much bigger amplitude (height) than the tiny wave, but both will get you wet.

Current: The number of electrons that flow across a given surface, such as a wire; rate of flow. Measured in either amps (short for amperes) or milliamps (thousandths of an ampere). Because the exact number of electrons cannot be counted, one amp is a specific, hypothetical number of electrons flowing past a point per second. The larger and/or thicker the wire, the more electrons are able to flow. In a frequency device, current is typically limited for consumer protection. Current is limited by introducing resistance into the circuit (see below).

Resistance: The amount of opposition to the electrical current. Measured in ohms. The conductor (wire) is made of materials that slow or impede this electron flow. The more resistance there is in the circuit, the less current will be available.

Capacitance: The amount of electrical charge that can be transferred between two unconnected plates. Measured in farads or microfarads (one millionth of a farad.) As a charge builds up, electrons flow from negative (–) to positive (+). The more capacitance between two plates, the more charge or current flow there will be between the plates. This is considered desirable with electrode (pad) units.

Note: Some devices, such as the Bare-Rife unit, are high current/low voltage devices and need relatively large amounts of power to operate. The tubes on these units should not be touched, other than the few seconds that might initially be needed to ignite the tube. On the other hand, PPET/P3 devices (from Pulsed Technologies) and EMEM units (often handmade by electronics technicians) are high voltage/low current, and in general they use much less power to operate. Some of the high voltage devices allow for direct contact. The low levels of current are well tolerated by the body at the frequencies used by most experimenters and researchers.

Both a PC computer speaker system and a PC sound card have deficiencies in both frequency accuracy and waveform output (although the latter can be significantly corrected). Due to hardware flaws, limitations of the circuitry clock and processor speed, and inherent mathematical constraints of the PC design itself, there will *always* be differences in the frequency you want and the frequency that is actually being generated. Sometimes this difference is within acceptable limits, but sometimes it's off by quite a bit.⁹

Although sound cards are flawed, the copious amount of fluids in the bloodstream and the bodily tissues can respond favorably to frequencies in the form of sound. Life Frequencies offers the BZtronics software that utilizes sound over headphones and speakers, with good to excellent results in many cases. Likewise, the popular FreX program, created by Australian massage therapist and rife Ken Uzzell, has many satisfied users. (See Appendix A for both listings.) Uzzell's database can be used with a home computer, audio speakers, electrodes, coil units, and even plasma technology. One enterprising woman reported transmitting the frequencies through an earbud placed at her navel. Every 20 minutes, the entire blood supply passes through a major blood vessel at the navel; so an earbud conveying one frequency covers the entire system in a single 20-minute period.

Why might sound work? I believe it's the mechanical vibrations to which the water in the body responds. Thus, this method of frequency conveyance is definitely worth trying if you're on a limited budget. However, if Rife Therapy doesn't work for you with these methods, I suggest using equipment solely designed for rife sessions. This is especially important if you have a life-threatening condition like cancer or a serious infection such as Lyme.

Combination Unit

One popular frequency device contains the basic standard features of hand and foot electrodes; but for an additional cost, users may add an RF amplifier to augment the signal, and if desired, a freestanding radiant plasma attachment. Another rife technology unit has, as standard equipment, two sets of hand-held electrodes—glass tubes containing noble gases, and the more conventional metal cylinders—along with metal foot plate electrodes. Several machines come with a variety of (optional) different color LEDs, giving users the advantages of LED technology combined with rife frequencies.

For more information about LEDs and lasers, see the next page.

Laser and LED Accessories

Within the last decade or so, some laser and LED (Light Emitting Diode) manufacturers have endowed their equipment with the ability to emit rife frequencies. Conversely, a few frequency device companies have begun offering optional LED attachments. The LEDs and lasers that I will be discussing use single-wavelength light for healing, a process called *phototherapy*.

Some rifiers discover LEDs and lasers after purchasing a frequency device, but monochromatic light therapy has existed for decades. Most of the early research and published data, spanning the late 1970s to the early 1980s, were from Russia. Later, various medical organizations and government agencies all over the world—including the National Aeronautics and Space Administration (NASA) in the US—also began using this modality. Today, phototherapy is becoming mainstream as more medical studies and research papers are published.

Most laser and LED therapies differ in some important ways, but they also share similarities. Both light technologies are based on the energetic behavior of electrons. Normally, electrons occupy a fixed place in one or more orbital rings that sequentially surround the atom's nucleus. When they become excited, electrons move faster and jump to higher orbits. When they relax and return to their original position, electrons release energy in the form of light, or photon units. The wavelength of a photon—in other words, its color—is determined by the amount of energy released when the electron drops to a lower orbit. *It is this emitted light that is harnessed in all forms of laser and LED technology.*

Lasers and LEDs can be made to produce any wavelength, and hence any color. The emission of the light (whether it's a red, green, blue or other color wavelength) is never due to colored glass, paint or pigment—it's solely the wavelength of the light itself that gives the emission its characteristic color. The wavelength is always one single frequency, so the color is known as *monochromatic*.

The most popular lasers and LEDs emit the color red, which ranges from about 630 to 670 nanometers. Some clinicians prefer a 660-nanometer wavelength, maintaining that this length wave is the easiest for the tissues to absorb. Others prefer a 630-nanometer wave, based on research published in the *Journal of Clinical Medical Laser Surgery* that bluntly states, "A wavelength of 630 nm appeared to be most commonly associated with bacterial inhibition. The findings of this study might be useful as a basis for selecting LLLT [low level laser therapy] for infected wounds."¹⁰ In this case, "bacterial inhibition" is the retardation of the growth and functioning of pathogens.

Regardless of one's favorite red wavelength, all researchers and practitioners who use red light find that it stimulates blood circulation, increases lymphatic drainage, and promotes cell metabolism. With some exceptions (explained in a moment), the light can be applied to every part of the body—skin, soft tissue, muscle, bone, brain, organs, lymphatic fluid, glands and blood. Used on an artery location, the light can improve the condition of immune white cells, T-cells and B-cells within the bloodstream so they can more efficiently disable viruses, bacteria and parasites. The reason for such a widespread benefit is that, as discovered by Dr. Tiina Karu, professor of Laser Biology and Medicine in Russia:

There are photoreceptors at the molecular-cellular level which, when triggered, activate a number of biological reactions: DNA/RNA synthesis, increased cAMP levels [cyclic adenosine monophosphate, a molecule involved in many biological processes], protein and collagen synthesis, and cellular proliferation. The result is rapid regeneration, normalization and healing of damaged cellular tissue. In essence, light is a trigger for the rearrangement of cellular metabolism.¹¹

Cell metabolism is stimulated when the light reaches photoreceptors in the mitochondria, which are the fuel burning units in each cell. The photoreceptors are able to respond to only a single wavelength of light. If different wavelengths are simultaneously applied to the tissue, the cell receives conflicting signals and cannot respond properly. A phototherapy device can be built to house a single light or many, but only one wavelength at a time should be shone on the body.

Monochromatic light also activates acupuncture points. The light maintains its integrity while radiating, so it can travel along the meridians of the body without being dispersed into the surrounding tissues. This makes it very useful for Chinese medicine treatments.

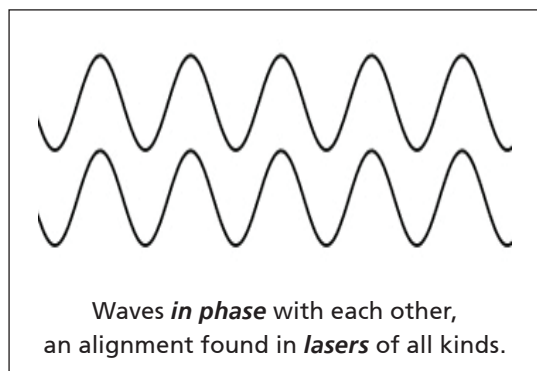
The light of LEDs and lasers can also be set so that for a duration of time at regular intervals, the beam is on, off, on, off, etc. A continuous, steady emission sedates pain, whereas *gating* the beam to go on, off, on, off (sometimes called "pulsing") stimulates healing. Gating is explained more fully later in this chapter.

Lasers and LEDs are sometimes regarded as interchangeable modalities, but their differences are important. I will explore lasers first.

Laser is an acronym for *Light Amplification by Stimulated Emission of Radiation*. The monochromatic light emitted by lasers is *coherent*. This means, from a physics standpoint, that all the peaks and valleys of the waves line up. The

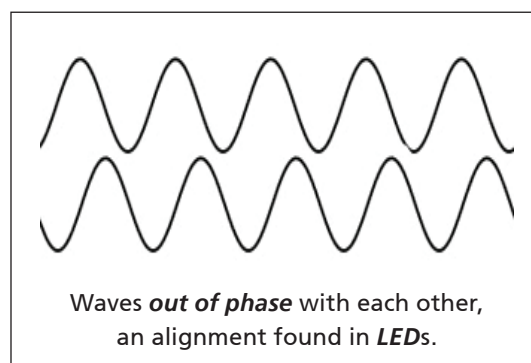
waves are high at the same time, and low at the same time. In practical terms, this means that the light is *directional* and *focused*. The concentration and precision of this light allow lasers to do the work for which they are best known: penetrating an object without touching it.

There are two types of lasers, “hard” and “soft.” Most people are familiar with the so-called “hard” lasers—high-intensity, high-power instruments that are used by industry (to cut through steel and other metals), or by doctors (used during surgery to make clean cuts into the body, cauterize wounds, and remove unwanted tissue). These high-intensity lasers are legally restricted devices, for obvious reasons.



True “soft” lasers—which are low-intensity and low-power, sometimes also called “cold” lasers—emit less power (under 50 milliwatts) than their restricted high-intensity counterparts. (Some lasers that are over 50 milliwatts in power are also confusingly called “soft.” However, this increase in power means that they can heat and damage tissue. So, despite the unregulated and misleading use of the word “soft” to describe these devices, I am not including them in this discussion of true “soft” lasers.) The cellular healing therapy described earlier that uses genuine “soft” lasers is also known as *low-level laser therapy*, or LLLT. Sometimes these “soft” lasers are used for acupuncture treatments instead of needles. With a little practice, they can be employed safely and effectively for healing by practitioners and knowledgeable laypersons. Keep in mind, though, that with any laser—be it “hot” or “cold”—care must be taken to avoid shining the beam directly into the eyes or even on the closed eyelid, as this can cause tissue damage and eventually blindness. Some practitioners recommend shining it in the open eye, but this is dangerous advice and it should not be followed.

Now I’ll discuss LEDs. *LED* is an acronym for *Light Emitting Diode*. An LED is sometimes erroneously called a *soft laser* or *laser*, but it’s not a laser; the monochromatic light emitted by LEDs is *incoherent*. This means, from a physics standpoint, that the peaks and valleys of the waves do not line up. The waves are emitted at random intervals.



In practical terms, this means that the light is *multi-directional* and *diffuse*. Its lack of beam precision prevents an LED from slicing through flesh or any other substance. However, this very lack of coherence also makes LED therapy safe enough to be used by anyone, even a child—and difficult to abuse. LEDs can be used directly on the eyelid to regenerate injured eye tissue. An LED array is much less expensive than a soft laser. Proponents of LED therapy cite studies showing that LEDs are 80% as effective as lasers when used for the same amount of time. And LEDs have widespread applications. “In Israel,” report Cocilovo and Rosen, “medical doctors utilize incoherent light transmitted by light emitting diodes (LED’s) in the practice of neurology, dentistry, dermatology, physiotherapy, and in cosmetic applications to promote collagen and elastin formation.”¹²

Until the 1980s, low-level lasers were used almost exclusively for phototherapy because researchers thought that the light needed to be coherent—and prior promising research with *incoherent* light was nearly forgotten. Subsequently, some clinicians determined that coherency did not make a huge difference. “Dr. Karu,” state Cocilovo and Rosen, “contends that coherent light is not necessary, that incoherent light is equally effective at producing clinical results. Furthermore, she found that coherent light is converted to incoherent light in the body. The exact effect depends on the wavelength, dose and intensity.”¹³

Whether you are using Rife-style equipment with LED or laser attachments, combining these modalities can speed healing. They may also bring better results than if one modality alone were being used. (However, an LED isn’t a mandatory accessory; and when properly used an LED can be effective all by itself.) Royal Rife himself did not use accessories with his ray devices. However, I see no reason to limit ourselves. Times change, technology advances, and people’s needs have multiplied in today’s complex world. If Rife were alive today, I like to think that his inventiveness and curiosity would have carried this technology a lot further.

Zapper

Sometimes referred to as “the poor person’s rife machine,” in some cases a zapper can actually be more useful than a rife-style frequency device. Dr. Richard Loyd—an experienced and skilled practitioner who also makes and sells some of the equipment he uses—has been investigating the electronics of frequency instruments for many years. He writes:

Some years ago, Dr. Hulda Clark discovered that a positive DC offset square wave would slowly kill most, or even all, infections—even if the correct frequency was not used. Thus, the Clark zapper was invented. With a positive DC offset wave, we could treat a non-toxic organism such as *Staph* with a *Staph* frequency, and at the same time we could slowly kill toxic organisms such as Lyme or *Candida* with that same *Staph* frequency. We can reduce *Staph* quickly, which we want, and we can also slowly reduce Lyme or *Candida*, which we also want. All at the same time. We will also be slowly reducing infections that we do not know about, also desirable.¹⁴

Many people use zappers with good results. If you have a rife-style electrode unit, you can create an effect similar to the effects of a zapper if you set the unit to emit a DC offset wave. If you do this, wrap a layer of wet paper towel around the hand cylinders. The paper towel absorbs the toxins and prevents them from returning to the body. It also prevents the electrodes from becoming stained and tarnished due to the impurities. Dr. Loyd found that this setup also helps reduce the level of mold toxins in the body. When mold toxins are reduced, treatments of other conditions are much more effective.

Make Rifing Easy

Design is unique to each machine (size and shape of the unit; knobs, dials or touch screen, etc.). However, most people have never even seen a frequency device. So before buying a unit, ask the manufacturer or dealer detailed questions about the device and request a catalogue with pictures and unit specifications.

Electronics buffs are more willing to operate sophisticated equipment than people who don’t have an affinity for electronic gadgets. A frequency unit should be made so that the average person can operate it, although some are easier to program and use than others. If you like extra accessories, such as LEDs, or require more

functions, you may prefer a more versatile and deluxe machine. However, if you are very ill or pressed for time, consider getting a simpler device. If you don’t want to spend a lot of time learning how to operate a machine, tell your seller.

For most people, the biggest decision is whether to buy a freestanding radiant plasma light unit or an electrode device. But whatever type you choose, and regardless of how many accessories it comes with, your unit *must* transmit the frequencies you select. If the frequencies aren’t accurate, and aren’t accepted by the body, your rifing won’t be successful!

WHAT TO LOOK FOR IN A MANUFACTURER OF FREQUENCY EQUIPMENT

Your Expectations

If you’re reading this book, you either already have a rife machine and want to know more about how to use it, or you’re considering purchasing a rife machine and are seeking guidance on the “best” unit. In either case, you need to know what’s realistic to expect.

I’m guessing that you, or someone you care about, has a medical condition that you’re hoping this equipment will help resolve. While Rife technology is extremely helpful, understand that there are many factors involved in becoming ill (see the beginning of Chapter 1). This therapy can play a very useful role in your recovery as long as you use it as part of an overall wellness protocol. For most people, there are no single substances or protocols that can make them better.

You also need to understand that in many instances, rife machine manufacturers are not allowed to explore medical issues with you—and for this reason, access to information may be limited. People living in countries where Rife Therapy is freely used in hospitals and clinics have access to more data than those living in countries that legally prohibit sellers from making medical claims. Thus, the average consumer must rely on word-of-mouth referrals and anecdotal accounts of success. Although Internet access makes shopping easier in some ways, it can be difficult to assess a machine’s track record if the seller is legally forbidden to tell consumers how to use the equipment for medical conditions or what protocols have proven successful. Once you locate prospective equipment dealers or manufacturers, be aware that they are probably restricted legally from sharing medical information. They can give you the specifications of the machine and tell you how to operate it, but they’ll be unable to discuss

your medical condition with you or tell you which frequencies to use. In the eyes of the law, this constitutes medical advice. If such conversations do take place and are discovered, the seller can go to jail for practicing medicine without a license, and the company may be forced to close.

For these reasons, you will not—or should not, if the company is obeying the law—find references to the diagnosis or treatment of disease in company literature, be it printed or on a website. But remember, this isn't the manufacturers' fault. (In fact, many machine builders I know personally became interested in the technology when they themselves became ill, or they wanted to help their family and friends. They'd probably love to help you if they could!) If the seller doesn't want to discuss your disease, it's important to respect their boundaries.

Below are some codes of behavior that are reasonable to expect from a seller, along with guidelines on what to look for when you're in the market to purchase a rife machine. The following are common sense suggestions, so they could apply to any electronic equipment and any supplier. However, they're especially important concerning a machine that you're buying to restore your health and possibly save your life.

Your Needs

For what purposes are you buying this equipment, and for whom? Do you want something to use for a brief period or for long term? Is this equipment intended for a group to use at the same time (in which case, you'll need a radiant plasma unit) or for an individual (in which case, you can purchase a cheaper electrode unit)? Is it for a human or an animal (in which case, you'll need a radiant plasma device)?

Accessibility of Manufacturer

Know who you are dealing with before you buy, and make sure the seller is accessible. I would not buy an expensive piece of medical equipment without knowing the name of the seller, having a way to reach him/her by telephone rather than just by email, and being able to verify all contact information. If you have questions about how to use the device, or if your machine breaks, you want to be able to contact the seller easily and quickly. A bona fide company has a contact person, a phone number and a physical address (not just a post office box), and a staff that returns your calls within 24 to 48 business hours.

If possible, purchase a unit that can be serviced in your own country. And make sure it's a reputable company or dealer rather than someone who sells machines “on

the side”; you want a company with the facilities for rapid service, tech support, and repair. I've heard several stories from upset people who, after paying for their devices, had problems with the equipment and tried to contact the vendors. The sellers didn't answer the phone, or didn't even seem to have a phone. These customers were then stuck with equipment that didn't work. (I wonder, did it ever do the job for which they bought it?) Unfortunately, there are charlatans in the health field, as in any other market. A few unscrupulous individuals who take advantage of desperately ill people can ruin the good names of the far greater number of honest sellers. I strongly advise against purchasing a unit from an “under the table” company, even if the unit is much cheaper than others. Your health and life, or the health and lives of your loved ones, may depend upon it.

Customer Service and Technical Support

It's important to feel comfortable with the seller, who is a vital link in your support network as you embark on your healing protocol. You have every right to expect technical support—which includes phone conversations, and not just emails—for setting up the equipment, using it correctly, and troubleshooting for malfunctions. Expect a staff member to return your calls within 24 or 48 business hours, or even sooner if you're ill and it's an emergency.

A reliable manufacturer will always test and re-test the unit before it's shipped. Does he or she expect to make improvements to the machine? As machine technology becomes more sophisticated, upgrades can be important. Ideally, the machine should have been made to easily accommodate future additions and upgrades with a minimum of expense. The company should provide upgrades (if applicable) either for free or for a modest sum.

People with cancer must use their equipment each day—at least once, and even twice—and they can't afford to be without it. Some vendors are nice enough to send out a “loaner” until the customer's is fixed. This is great customer service indeed.

Don't expect to be given medical advice. This isn't the job of a manufacturer or dealer, even though you might be tempted to ask for it (especially if your doctor doesn't know anything about this technology). It's understandable if you want the seller to provide medical advice and even emotional support. But remember that in some parts of the world, *dispensing medical advice, in conjunction with selling equipment not legally mandated for medical purposes, is against the law.* The seller could be heavily fined and even go to jail for breaking this law. As a buyer and

experimenter, you have every right to expect courteous assistance. But that's all. Should the seller offer any kind of advice, referrals or suggestions about products, that's entirely up to him or her.

Sometimes, frustrated sellers tell me that they spend hours on the phone with a prospective customer, who then purchases the same unit from someone else for a few hundred dollars less. Although this act might initially save the buyer some money, it's counterproductive because the second vendor is unlikely to provide comparable customer service. When you purchase a unit, you're also paying for the seller's expertise: ongoing tech support, and proper maintenance of equipment that could save your life. I respect the seller's time and energy. Buying from someone who cares enough to provide tireless and courteous customer service more than makes up for a slightly higher price. You get what you pay for.

One more thing. Vendors commonly tell me about getting calls from frantic users who think that the machine has made them sick, when in fact the frequency technology has simply done its job. Remember to drink more water. You may also need to adjust your diet, get into the sauna, and use other protocols. Chapter 3 is all about effective and safe therapies that complement rifting.

Warranty

A standard warranty for most electronic devices is one year for parts and 90 days for labor, or one year each for parts and labor. Some frequency device vendors may guarantee the unit for longer. Is an extended warranty available? If the vendor doesn't have it, ask for one.

Money Back Guarantee

Some sellers offer a 30-day money back guarantee. They may also charge a restocking fee for depreciation of the unit, as it can no longer be sold as new. The restocking fee can range from one to several hundred dollars. Don't begrudge the seller this charge; it takes time to pack, insure, and ship a unit. The restocking fee is no different from that levied by a seller of other items. Consider the restocking charge as a rental fee.

A money back guarantee, even with a restocking charge, is a generous policy. Using a frequency device for, say, \$400 on a one-month trial basis is a wise investment, as it may restore your health and even save your life.

Repair Record

Many people are using this equipment to treat cancer, which usually means sessions twice a day. (See **Frequently Asked Questions** later in this chapter for information on using the equipment for cancer.) Find out how well the unit operates with heavy use. If it needs to be repaired, how easily can you pack and ship it? And how quickly is it returned to you? If your unit malfunctions, you need it repaired and returned to you without delay! What is the fee for repairs?

Ease of Shipping the Unit

This is especially relevant if you need to return the unit for repair or upgrade. Consider:

- ◆ *Size and shape of the unit.* Is it easy to wrap, box, and ship? Is it easily breakable? Find out the shipper's reimbursement policy if the machine breaks in transit.
- ◆ *Location from where the instrument is shipped.* Is the manufacturer in the same state or province? Or in another country? If the manufacturer isn't local, can you send the unit to a dealer or distributor in your own country? Dedicated rifers don't like to be without their machines for long, so proximity to the service location can be important. Also, it's usually expensive to ship your unit overseas. Ask what kind of service comes with the unit before you buy.

Fair Price

Some people new to this technology are surprised when they open the package and see a little square box with two 6-inch metal cylinders and some cables. "You spent two thousand dollars for *that*?" family members exclaim, horrified. And if your doctor—knowing nothing about this technology—starts to criticize and sneer, your doubts can escalate even more. How can you become a confident, successful rifer with so many potential obstacles to overcome—even before the unit is plugged into the wall?

Nonetheless (and I speak from personal experience), a good unit is worth the price. The cost of rife equipment varies, though, and price isn't always a good indicator of quality. Some units are nothing more than standard, off-the-shelf frequency generators sporting a new logo and repackaged with a few wires and electrodes. These devices, which should be the least expensive, sometimes cost as much as better, custom designed equipment. And in the pricier, custom designed units, the better features sometimes aren't obvious because they're built into the internal components. This chapter gives you the

information you need to converse intelligently with the seller and ascertain the sophistication of the unit.

You can buy an effective (electrode) frequency device for about one thousand dollars. Although even this may seem too expensive, consider how much you have already spent on health care. Did it resolve your issues? Now think about how much money you'll save on health care in the future by owning a rife unit now, and how much more it may cost the longer you delay owning a machine. Remember, too, that you're spending this amount all at once, so the initial outlay may seem overwhelming. However, factoring the cost of a machine over a period of many years, you'll pay less than all those doctor visits you made or would like to make—most of which might not even produce the results that a frequency device would. With a good warranty and proper servicing, a rife device should last a long time, work for many different conditions, and can be used by you, your family, friends, and even your pets and livestock.

One more thing. If you're importing your unit from another country, you need to factor in the shipping costs, which are usually much higher than what you'd pay for a machine shipped locally. And don't forget applicable customs charges and taxes. These fees can raise the price of a unit by several hundred dollars.

Claims

It can be difficult to correctly evaluate all the different frequency devices on the market—especially if you, or someone close to you, are ill and need to buy something quickly. Many people don't learn about Rife Therapy until they've exhausted their other options (usually allopathic). But at the point they're ready to buy, they are desperate, and easy prey to any unscrupulous salesperson. Here are some sales tactics you should be aware of when attempting to purchase frequency equipment.

- ◆ *"Making claims such as "Our machine is superior to all others on the market."* This claim pervades the marketplace, and it's usually false. Sellers sometimes post charts on the Internet comparing their units to other companies' units. The problem is, they're judging their modern equipment against outdated, older models from their competitors—thus making their own units seem more advanced than they really are. This is dishonest, and there's no excuse for it. The manufacturer I most respect refuses to make a sale by disparaging other units. He also refuses to sell his equipment to customers who are "looking for a bargain" or who choose hype over honesty. He prefers to let his design and the (actual, not fabricated)
- specifications speak for themselves. He wants only informed consumers as his customers, he says, because being informed is better—both for the rifer and the manufacturer, who will have fewer business problems later if the customer knows what to realistically expect.
- ◆ *Providing misleading specifications ("specs").* Sadly, specs can be designed to deceive, and when engineering and electronics are involved, it's difficult for the average consumer to evaluate them. For instance, a company might boast that its equipment has the highest possible power output. This might indeed be true. *But the highest power level does not necessarily mean that the signal will successfully penetrate the body. Nor does it ensure that the body will accept the signal.* (I discuss this in depth later.) Another devious sales tactic is the use of fancy language when providing the machine's specs. This language may consist of made-up words that sound like impressive engineering terms, but in reality don't mean anything. Or, genuine engineering terms may be used incorrectly—misleading the average person into believing that the equipment is superior, when in fact it's not. Please take the time to read this chapter carefully. An unethical salesperson will be less able to cheat you if you understand the different types of machines that are available, if you know what you need, and if you have knowledge of basic terms. Don't be afraid to ask the seller to define terms. And *keep asking questions until you're satisfied.*
- ◆ *Allegations that a machine is modeled and built exactly according to Royal Rife's specifications.* As explained in detail in Chapter 2, there are many reasons that Rife's original technology did not survive. Certain parts are no longer made, and laws have changed that make it impossible to make machines exactly as Royal Rife did, way back in the 1930s. Also, as technology has advanced since Rife's time, there's no reason to assume that only his equipment could offer the most benefits. Associating a piece of modern equipment with Rife's original units is unfair and misleading.
- ◆ *Using the name of Rife or his original Beam Rays equipment in either the name of a frequency unit or the company that makes it.* People unfamiliar with Rife history or technology could be misled into thinking that they're buying the "real thing." I admit to feeling outright hostility toward these gimmicks, which are obviously used to increase sales. If a piece of equipment is effective and is being sold at a fair price, it will survive in the marketplace.

FREQUENTLY ASKED QUESTIONS

Frequency Equipment

Q. I have a radiant plasma unit. How far from the light should I sit or lie down?

- A. One company suggests being as close to the light as possible. Another company advises sitting at least 6 feet away. Another source conducted studies showing that the tube is effective at a range of 30 feet. Each unit is made differently, so check with the manufacturer.

Q. Will the light from a plasma tube hurt my eyes?

- A. Plasma can emit both beneficial infrared (felt as heat) and ultraviolet-B (UV-B) radiation, which is harmful. Quartz offers no protection from UV-B. Some instruments have leaded glass to filter out the UV-B.

Regarding glass tubes that are not shielded, one researcher assures me that as the radiation is negligible if you're at least 3 inches away, there's no reason to be concerned. Nevertheless, if the tube emits UV light it's a good idea not to stare at it—just as you wouldn't stare directly into the sun because it could cause the retinas of your eyes to become burned. Some manufacturers explicitly state that they make tubes from leaded glass or Pyrex® to filter out the UV rays.

No matter what material comprises the glass, with frequencies lower than 20 or 30 Hz, each individual flash of light may be slow enough to be discerned with the naked eye. Very sensitive people might experience this as mesmerizing or disorienting. Nevertheless, these reactions are not common. So feel free to experiment with ray tube machines. If the flashing lights bother you, close or cover your eyes.

By the way, don't touch the tubes unless the manufacturer gives a specific reason for doing so.

Q. What if something is blocking the light?

- A. Some believe that the best results are achieved if the wave from the radiant plasma tube is not obstructed by furniture or other objects. However, results depend on the equipment being used. The effects of emissions from a Pulsed Technologies radiant plasma machine have been experienced in a house next to the one where the equipment was actually running.

Ask the seller if there are conditions that make the equipment perform optimally.

Q. I have been warned about X-rays coming from the plasma tube. Is this a legitimate concern?

- A. You don't have to worry, advises engineer and rifer Dave Felt.

It takes very high voltages and a high vacuum condition to get any X-ray radiation from a plasma-type lamp. None of the plasma lamp machines currently on the market have those voltages or that high a vacuum. So there is no need to be concerned about receiving X-rays from the Bare-Rife or EMEM [Electro Magnetic Energy Machine] plasma light devices. Also, the light tubes used in EMEM and Bare-Rife devices simply don't have any mechanism to produce alpha, beta or gamma radiation with normal use."

Dave also points out that some plasma lamp devices may *magnetically* induce signals in the electronics of some radiation detectors. "This may lead one to conclude that there is 'radiation' being given off by the plasma lamps. But there is no radiation."¹⁵

Hertz Conversion

12 Hz	12 Hz (hertz); cycles per second, single units
12,000 Hz	12 KHz (kilohertz); thousands of Hz
120,000 Hz	120 KHz (kilohertz); thousands of Hz
1,200,000 Hz	1.2 MHz (megahertz); millions of Hz
12,000,000 Hz	12 MHz (megahertz); millions of Hz
1,200,000,000 Hz	1.2 GHz (gigahertz); billions of Hz
12,000,000,000 Hz	12 GHz (gigahertz), billions of Hz
1,200,000,000,000 Hz	1 THz (tetrahertz); trillions of Hz

Q. Can I be harmed by the radio frequency (RF) emitted by a device?

- A. This is a huge area of contention and debate among Rife researchers. Some manufacturers claim that RF (radio frequency) is necessary, while others say it's dangerous. I'll present both sides, and you can decide for yourself if you want to use a unit that emits RF.

A discussion about RF can be confusing because different wavelengths have different properties. Therefore, let's define RF first. Radio waves span an extremely broad range on the electromagnetic spectrum, ranging from 300 GHz (with a wavelength of 1 millimeter) to 3 KHz (with a wavelength of 100 kilometers). In our modern world, RF is utilized for all sorts of functions. One obvious use is radio transmissions, including CB (citizen band) that's transmitted at 27.125 MHz. This particular frequency is also used in medical, industrial and scientific devices, according to an international agreement that assigns specific frequencies for particular uses. Microwaves, ranging from 300 MHz to 300 GHz, are technically a subset of the RF spectrum. Sometimes they're simply called "microwaves," and sometimes they're referred to as "RF." A major reason microwaves are dangerous is that they cause living tissue to heat (which is how they cook food; see Chapter 3, **Food** for details).

Not all RF wavelengths produce thermal (heating) effects, but the RF wavelengths that don't heat tissue aren't necessarily safe either. Some RF wavelengths are known to cause harm while the effects of other wavelengths are less researched. Dr. Samuel Milham's famous study of active amateur "ham" radio operators revealed a 25% higher rate of leukemia than in the general population, due to their frequent exposure to RF fields.¹⁶ Similarly, a 1997 article called "Radiofrequency Field Exposure and Cancer: What Do the Laboratory Studies Suggest?" from the World Health Organization in Geneva, Switzerland, stated: "Some animal studies suggest that RF fields accelerate the development of sarcoma colonies in the lung, mammary tumors, skin tumors, hepatomas, and sarcomas."¹⁷ In one experiment, the specific frequency of 2.45 GHz aimed at live mice "increased the number of single and double-strand breaks in brain cell DNA when assayed 4 hr [hours] after RF exposure. . . . These experiments challenge the belief that RF fields are unable to break molecular bonds." (Interestingly,

The scientist is not a person who gives the right answers, he is one who asks the right questions.

—Claude Lévi-Strauss
French anthropologist, author,
philosopher and professor
(1908–2009)

treating the rats immediately before or after exposure with the hormone melatonin, at the dose of 1 mg per kg of body weight, blocked the formation of the DNA breaks. This demonstrates the protective nature of melatonin.)¹⁸ The author also cited some harm due to "exposure to very low levels of amplitude-modulated RF fields. Such exposure, *at levels too low to involve heating*, reportedly altered electrical activity of the brain in cats and rabbits; activity of the enzyme ODC, levels of which may be elevated during tumor promotion." [emphasis added]¹⁹ Despite this data, the author also mentioned studies that were inconclusive (and probably conducted or funded by the telecommunications industry, which has a vested interest in finding RF safe).

Considering this information, the average person who wants to utilize frequency therapy may understandably be confused or worried. What about RF in rife machines? Is it safe? Well, it depends—on the person, their health condition, the power level of the RF in the equipment, how long the person's exposure is, their proximity to the unit (see Sidebar, "RF Isn't Always Helpful"), and perhaps other factors that we don't know about yet. It should be noted, as Rife researcher Char Boehm points out, that not all of Royal Rife's equipment utilized RF.

How is RF used in Rife Therapy today? RF can be a carrier wave for other frequencies, the MOR itself, or an emission "byproduct." With radiant plasma units, most that are low-voltage and high-current use RF to produce the plasma. Most of the high-voltage low-current units don't specifically use RF to produce the plasma. However, in the act of switching the power on and off very rapidly (which activates and deactivates the plasma), such units—particularly EMEM and similar machines equipped with a spark plug or spark gap—do produce RF as a byproduct. (*Spark gap* simply means that the voltage is arcing in the space between two metal parts inside the unit.)

One machine that uses an RF carrier wave (albeit at low power) is the PERL M+, a radiant plasma unit from Resonant Light in Canada. The PERL M+ is a Rife-Bare (also called a Bare-Rife) machine, so named because its design is based on a patent held by US chiropractor James Bare, who for a fee licenses the design to companies who wish to manufacture it. Two other popular radiant plasma units from the United States also use RF: the BCX Ultra, and the M.O.P.A. (which attaches to the electrode-equipped GB-4000

generator). The electrode feature on the GB-4000 has an optional RF switch that can be turned on and off. The manufacturers should be contacted directly for the RF specifications used in their equipment, as the signals may periodically be changed.

Rife researcher Bruce Stenulson has had considerable negative personal experience with RF, in addition to observing highly negative responses in others. He maintains that there's no reason to include an RF carrier wave in modern-day frequency devices (either deliberately, or as an incidental result of design). RF can sometimes even affect even those who don't normally consider themselves electrosensitive.

Some electrosensitive individuals cannot even ride in most autos; they are unable to tolerate even low levels of exposure to a common internal combustion spark ignition system without experiencing aggravation and deterioration of their condition. The situation is compounded because people who are highly electrosensitive may also become chemically sensitive. And with people who were already chemically sensitive, their reactions are now heightened. . . . a person who had previously led a "normal" life can become extremely electrosensitive from supposedly innocuous exposures.²⁰

For this reason, Stenulson states, he constructs his units so that they don't emit RF. He also points out that what many people believe is a detoxification response from microbial die-off (discussed later in this chapter) may be a negative response to RF. He emphasizes that as long as the frequencies are emitted cleanly and the pathogen is correctly targeted, a user can obtain excellent results without the use of RF of any kind.

Based on some personal experience and observations of others, I concur that some people indeed react poorly to RF exposure. When exposed to very high RF frequencies from a rife machine, they feel unwell and develop undesirable symptoms ranging from headache and muscle pain to increased infections. The symptoms may vary with each individual, as do the frequencies that cause the symptoms. In our modern society in which we're constantly exposed to electrosmog—from cell phones, computers and other electronic appliances and gadgets to motors and transmission towers—it can be difficult to determine which specific frequencies might be especially problematic for an individual and which RF signals should be avoided.

Nevertheless, based on reports from satisfied rifiers as well as some researchers, there could be a huge advantage to using equipment that specifically

RF Isn't Always Helpful

Not everyone can tolerate being near an RF carrier wave, even if that wave is conveying frequencies intended to restore one's health. Here is one rifer's experience.

The walls and roof of my entire house (though not floors and windows) are shielded from radio frequencies (RF). Friends who come over with their mobile phones have to go outside to use them because the phones don't work in the house. So I have a good experimental space in which I can test RF frequencies.

When I stay too close to my RF plasma system for too long, what I experience is what I call RF loading, and not a Herxheimer or detoxification effect [which occurs due to the die-off of pathogens in the body]. (I'm talking about an RF field generated by a clean high frequency, and not a chaotic signal generated by a spark plug.) For me, RF loading affects the upper body tissue in the form of compression. The neck and skull muscles, known as the occipitals, become tight; this might be due to fascia tightening on these muscles. When these muscles get restricted, they can affect the cervical artery—that is, reduce blood flow out of the brain, which increases pressure in the brain and will produce nasty migraine headaches that can linger for days and not be relieved by drugs. This binding down of tissue on blood and nerve channels can easily lead to other symptoms.

When I sit outside the subjectively discernible RF field that the plasma transmitter produces, I do not experience these symptoms. However, I still obtain the benefits from the generalized electromagnetic field that conveys the MOR frequencies.

—Ken Uzzell

Australian massage therapist and rifer, 2006

generates RF. Jeff Sutherland, PhD, says that in his experience, non-RF units are helpful for most conditions except cancer. He maintains that RF breaks up tumors precisely *because* of its chaotic, "noisy" signal. Richard Loyd, PhD, agrees. For example, he finds an EMEM machine successful for just about every condition except cancer—probably, he guesses, because the metal pieces involved in the voltage sparking tend to get dirty, which prevents the machine from emitting RF as a "by-product" of the signal. When this happens, the overall energy levels fall so much that tumors don't shrink.

Electro-sensitivity is usually cumulative. After prolonged exposure to electrosmog, an encounter with RF from a rife machine may be the final load that creates more sensitivity and health problems. How can you tell if your unpleasant symptoms are due to the RF from a frequency machine? Here are some simple tests:

- ◆ *Step 1.* Sit one to three feet from your RF unit. Run 10,000 Hz, a frequency that helps with cellular repair but doesn't kill pathogens. If you feel bad, you're probably responding to the RF.
- ◆ *Step 2.* Now you need to see if being farther away from the RF unit will help. Sit at least six feet (or seven feet, maximum) from the machine—again, keeping the test signal constant at 10,000 Hz. If you do feel better, you'll know that the RF is no longer affecting you negatively.
- ◆ *Step 3.* Now you need to know if the machine will be effective for you at the distance you selected. Did you feel better because no RF reached you, because of the 10,000 Hz signal—or both? To test whether a frequency will reach you, sit the same distance away from the machine (six to seven feet) and run a frequency that targets an infection you know you have. If your infection dwindles, you'll know that the distance you selected is effective. Plus, you have just confirmed how far away from the machine you need to be to safely use RF.

An alternative test can be done if you have two units, one that uses RF and one that does not. Both can be either radiant plasma or electrode. Run 10,000 Hz on each and see which feels better to you (or if there's no discernable difference).

If you have cancer, should or shouldn't you use a unit that emits RF? Consider the possible long-term advantages of eliminating the disease over the possible short-term disadvantages of RF exposure. Many users report that an RF frequency device has saved their life.

Whatever your condition, the signal must reach its target. You always have the option of using a machine that has a deeply penetrating signal but is RF-free. The radiant plasma and electrode units from Pulsed Technologies (which has offices in the US and Romania) drive the signal into the body via a different, but very effective, method. The photo section in this chapter shows the oscilloscope pictures of the specially manipulated wave forms being sent to, and emitted by, a Pulsed Technologies tube.

Royal Rife stated that the RF from his equipment never harmed him. We have no way of confirming this. However, we also know that compared to modern equipment, Rife's machines were constructed very differently, used a different RF carrier signal, and in general were used for much briefer periods.

One more thing. *RF equipment must be legal.* See Sidebar, "Frequency Devices and Electronic Interference."

Q. Different machines use different RF carrier waves. Does it matter what the carrier wave is?

- A. As discussed in the previous question, different areas of the RF spectrum have different properties. Ask the manufacturer why a given RF signal has been chosen, and if possible, test the unit before you buy it to see if its energy feels good to you.

Q. I have an electrode (pad) unit. Where should I place the electrodes?

- A. *Be careful when using electrodes.* Generally, electrodes shouldn't be used on the face. However, I have done this for dental infections (discussed later in this chapter). *Never place electrodes over the carotid artery* (beneath the bottom of either ear on the side of the neck). This can severely disable or even kill you! Don't ever use electrodes over the heart, and don't use foot plate electrodes if you're pregnant; it might adversely affect the baby. Reread the first pages of this chapter for details.

The most common types of electrodes used for frequency devices are the following:

- ◆ *Hand-held Electrodes.* Two metal tubes, 4 to 6 inches long, are either held in the hand or placed with the targeted area between them.
- ◆ *Electrode Patches.* Up to ¼ inch thick, in the shape of squares, circles or ovals, the patches are generally ½ inch to 2 inches with wires that connect to cords that go into a unit. Equipped with a conductive gel, the patch electrodes stick to bare skin. They're commonly placed on areas that are hard to reach, require detoxification, or contain localized infections. You can place the patches at the armpit (rich in lymph glands), throat (for directly addressing the thyroid or lymph), lower back (the location of kidneys and adrenal glands), or any other area needing focused attention.
- ◆ *Foot Plate.* Metal, sized to accommodate bare feet.
- ◆ *Thin, Flexible Metal Sheets.* Attached to alligator clips, and then to wires that lead to the machine, the sheets are always wrapped in wet cloth or paper towels and wrapped around the body.

Electrodes are useful for focusing on specific problem areas. Some suggested placements are:

- ◆ Either side of the afflicted area. If, for instance, you want to eliminate parasites in the large intestine, hold the electrodes (or stick electrode patches) on

either side of the abdomen. For kidney problems, place one patch electrode at the lower back on either side of the spine.

- ◆ Front and back of the body. For a pulled muscle, for instance in the shoulder, place the electrodes at the shoulder in the front and back of the body.

Placing the electrodes closer together makes the signal more intense. You may need to turn down the power (“volume control,” which makes the *amplitude*, or height of the wave, smaller) when experimenting with the pads close to each other. For more penetration (and better results), wrap wet paper towels around the metal electrodes, and wet the electrodes again when they begin to dry. The water is conductive; wetting the electrodes with salted water will make them even more conductive. Electrode patches should be refreshed (if necessary) with conductive gel or aloe vera gel.

Q. Sometimes when I use the electrodes, my skin develops a rash or blisters. What should I do?

- A.** Crusts, small blisters, and even eczema-type “weeping” are occasionally reported to appear at the sites of the electrodes. “Skin burn” may be alleviated by the use of wet cloths or electrode conductive gel. The gel contains electrolytes (minerals) to lower skin

resistance and increase the ability of the current to flow. The better gels contain aloe vera to minimize skin irritation. You can also use aloe afterward. You may have the power (“volume control”) of the unit set too high. Skin in different parts of the body has varying degrees of sensitivity; so adjust your power setting according to where you’re using the electrodes.

Many experimenters prefer square waves not because of the harmonics, but because they feel gentler on the skin. (Harmonics were discussed in the earlier Insert, “Signal Penetration: Wave Shapes, Harmonics, and Duty Cycles.”) The word “experiment” is apt. You really do need to experiment to find a comfortable wave shape that produces the results you want. This also applies to the frequency. Try a higher harmonic or lower sub-harmonic of the suggested frequency and see if it works while being kinder to your skin.

A few electrode machines are equipped with an optional feature that allows you to use RF (radio frequency) as a carrier for the actual frequency. The RF allows for ample penetration at low power; but as you might feel bad with RF, you’ll have to experiment.

If you have factored in all of the above and you’re still sensitive to electrical current, you may be better off with a radiant plasma device. Some people simply don’t respond well to electrodes.

Frequency Devices and Electronic Interference

Some radiant plasma units emit signals in the RF (radio frequency) range. Before you purchase a radiant plasma unit, make sure that the RF it transmits are in the range allowed by the Federal Communications Commission (FCC). The FCC’s job is to allocate radio frequency bands for specific uses—such as broadcasts, aeronautical and marine transmissions, search and rescue, radiolocation, and amateur (ham) transmissions—as well as to license the users of those bands. Allocation and licensing ensure that vital communications do not interfere with each other. If an operator of equipment causes electronic interference and does not correct the problem, s/he can be fined as much as \$10,000 for each violation and \$75,000 for repeat or continuing violations. For manufacturers and sellers of obstructive devices, fines are even higher! If a machine manufacturer requires you to sign a disclaimer that you absolve the manufacturer from liability if your unit causes interference, there’s a chance that the signal is illegal.

Not all devices require licensing. The FCC allows *low-power* transmitters to share frequency bands with licensed high-power transmitters if certain restrictions are met, including a transmission range of no more than 200 feet (61 meters). This is important for both device manufacturers and the rifers who use them. (Shielding methods such as Faraday cages or mu metal are expensive and impractical for the average person, so won’t be discussed here.)

How do you know if your equipment won’t cause problems? In North America, one of the RF ranges that medical devices are allowed to use—as long as they don’t exceed low-power limitations—is from 26.957 MHz to 27.283 MHz. (Most Bare-Rife equipment uses this range.) This is called the *ISM band*, short for “Industrial, Scientific and Medical.” Rifers have a responsibility to ensure that their machines do not cause electronic interference for their neighbors.

For more information, see:

fcc.gov/mb/audio/lowpwr.html

fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet63/oet63rev.pdf

fcc.gov/oet/spectrum/table/fcctable.pdf

Q. Can I use an electrode and radiant plasma unit at the same time?

- A. This isn't commonly done, perhaps because most people own just one frequency device. However, rifiers who have tried this method report that when they use electrodes on a specific area while using plasma for a systemic condition, their healing is accelerated.

One Rife researcher found that running the same frequency from two plasma units at the same time produces a more rapid positive change than running a frequency from a single device. However, if you use two machines at one time for two separate conditions, there's a slight chance that your body might become confused. More input—be it from drugs, homeopathic remedies, herbs, nutritional supplements, or frequencies—is not always better. See how you feel.

Q. Is it true that radiant plasma devices work better than electrode devices?

- A. Everyone is unique, with different preferences and needs. A machine that pleases me may not please you. Also, the strengths of each type of device may make it more suitable for certain conditions and not others.

Opponents of pad units point out that because Royal Rife never enthusiastically endorsed them, they shouldn't even be used. However, a more valid concern is how deeply into the body the electrical current penetrates. Consumers are understandably puzzled by contradictory claims from manufacturers of each type of unit, so let's address this briefly.

The body is comprised of about two-thirds water, which contains dissolved mineral salts (electrolytes) that naturally conduct electrical charge. For insulation against the constant bombardment of (external) electrical impulses that threaten to confuse our inner electrical environment, we have a barrier of skin. This explains why an electrode's signals coming into the body don't sustain the same shape once they penetrate the skin. Nevertheless, although the skin does prevent some charge from reaching the body, it *does* conduct some electricity. For example, when my engineer friend Howie used a pad unit on his feet, his instruments detected a discernible electrical charge at his head, a clear indication that the current was flowing throughout his entire body. Researchers may not know how much protection the skin offers, or if there's a significant difference between individuals; but nevertheless, the argument that the body doesn't receive enough power from electrodes to impart any benefits, simply isn't valid.

Interestingly, some health professionals obtain even better results with pad than plasma units for certain conditions. One colleague offers a novel explanation for the success of pad units. The path of least resistance to the electrical flow is along the acupuncture meridians. *If the current from an electrode unit falls on or near enough to an acupuncture meridian, that energy is transmitted along the entire meridian and will directly affect the organs, glands, or other body areas that belong to that meridian system.* It's already established that light from a "soft" (non-coherent) laser shining onto an acupuncture point will travel along the entire meridian, so why not current from a pad device? (Users who increase the power on their machines—which increases the voltage, or amount of force driving the signal—find that their muscles start to twitch. This mechanical motion could conceivably destabilize pathogens, but most engineers don't consider muscle twitching necessary or even desirable, because even a low-power signal gets into the body.)

The simplest promotion of electrode devices is made by archivist and researcher Peter Walker: "The argument that electrical energy applied through pads does not reach every cell has been shown to only apply to *short treatments*. After 10 minutes [per frequency] of treatment, the body reaches [its] saturation point." [emphasis added]²¹ Therefore, users of pad devices should simply extend the time of each frequency.

Some wonder whether it's the electrical charge per se, rather than a specific frequency of electrical charge, that destroys the microorganisms. How do we know the pathogens weren't just electrocuted (or stunned)? If this were the case, rifiers would not consistently and emphatically prefer some frequencies over others. For example, many people (including myself) feel their lungs and sinuses clear when they use 1234 Hz.

Some conditions appear to respond better and faster to machines that use electrodes rather than plasma. These conditions include spasms, cramping, pain, and stiffness in the muscles and joints. For these conditions, many users apply the frequencies with patch electrodes.

Here are specific examples of how electrodes might be used. One acquaintance had a severe case of shingles, an infection from the *Herpes* virus that affects the nerves and causes horrible pain with skin blistering and rashes. He almost completely eliminated his condition using a pad unit, perhaps due to increased concentration of electrical charge along the surface of the skin. Another man had a serious, longstanding, huge lump in his neck caused by parasites. After trying

every type of unit on the market without success, he found relief after running frequencies through a metal pan of water into which he immersed his feet. In his case, the current introduced into the water helped when no other method could, including a more conventional use of electrodes.

In my own experience, a severe gum infection responded better to a pad machine than to a radiant plasma unit. Instead of electrodes for the hands or feet, I took special electrodes patches typically used for TENS units, stuck them on my cheeks, and rified once a day for six days. I held salt water in my closed mouth during the entire session to ensure good conductivity. (I began with a small amount of salt water in my mouth—not enough to completely fill it—because the saliva flow increases as time passes, and during this protocol you shouldn't swallow.) Current near the face is always tricky, even when the machine's power setting is low. If you put electrodes on your face, you are experimenting at your own risk!

If electrode units were ineffective, thousands of experimenters would have abandoned them years ago. Pad devices are very popular (and legal for medical use) in Europe. My personal experimentation with rife technology began, in fact, with a standard laboratory frequency generator attached to two handmade electrodes made from plumbing pipes. For two years, I saw my symptoms decrease from frequencies transmitted by this very primitive equipment. Had I not experienced positive results with an electrode unit, I may have discounted Rife technology entirely.

That said, I know experimenters who did not benefit from using electrodes, but saw their condition rapidly improve when they switched to a radiant plasma unit. Everyone is different: only you can evaluate if a unit is helping you. Lifestyle, genetics, degree of comfort with electronic equipment, and health conditions vary. There's room for many different types of frequency machines (and other electromedical healing devices).

Q. My machine doesn't allow me to program frequencies into it. Instead, it uses code numbers that correspond to channels with preprogrammed frequencies. Does it matter that I don't know what frequency I'm getting?

A. Some devices are pre-programmed with code numbers that represent frequencies. For example, on one machine code number 1 corresponds to 10 KHz, code number 2 corresponds to 1050 Hz, and so on.

There are many disadvantages to machines that use code numbers in lieu of frequencies. The frequency

emitted is hidden from the user. Even if the operator's manual reveals which frequencies belong to which code numbers, what if you want to use a frequency that hasn't been programmed into the machine? With the escalation of new virulent pathogens and the discovery of frequencies for them, the inability to program a unit with an actual frequency is a serious handicap.

Some manufacturers of coded equipment offer upgrades as new frequencies become available. The customer sends in the unit, and the new frequencies are added at the factory. However, this feature keeps the user perpetually dependent on the manufacturer for improvements—not to mention the cost of shipping, and the disadvantage of not having your machine when you need it. Consider these points before purchasing a unit that relies solely on code numbers. There are similar problems with equipment that uses CDs.

Coded machines can be convenient, though. For the very ill—who often lack the energy and brainpower to run their devices—pre-programmed channels, which require only one simple number to bring up many frequencies at a time, are easy to operate. However, most manufacturers of user-programmable devices are now also offering preset programs. The frequency banks are already in the unit (either as a regular feature at no extra cost, or by special request for an extra fee if the customer asks for it). In such non-code machines, the convenience and ease of pre-programming are available while still allowing the user to remain completely in control of his or her health regimen.

Serious Rife researchers never work with coded machines. If frequencies cannot be programmed or verified, reproducible protocols—or improved technology—cannot be developed.

Q. My rife machine has a feature called *sweep*. What does this do?

A. Organisms all have a Mortal Oscillatory Rate (MOR). However, when threatened by a hostile environment, pathogens protect themselves by mutating—mutations which correspond to a slightly different MOR. We can compensate for these variations by programming the rife machine to run some frequencies on either side of the main frequency, a process known as *sweeping*. This sweep targets both pathogens that have the typical (and expected) MOR, as well as those that deviate from the average MOR. Another way of describing sweeping is *micro-stepping*, *incremental stepping* or simply *stepping in increments* or *sweeping in increments*.

Sweeping depends mainly on how a machine is set up to be programmed. Here are several possibilities:

- ◆ *Example #1.* Enter the main MOR frequency into the machine. Then indicate how many Hz to vary on either side of the main signal. Most machines move in increments of one Hz, but—depending on the sophistication of the unit—some move in smaller steps of, say, .001, 0.01, 0.05, or 0.1 Hz on either side of the main signal.
- ◆ *Example #2.* The sweep function makes the signal oscillate between two numbers. Say you want the unit to run frequencies between 2000 and 3000 Hz. Two thousand is the lower number you program into the unit; 3000 is the upper number.
- ◆ *Example #3.* The main signal is 728. The program runs five additional, 1-Hz steps going upwards from 728: 729, 730, 731, 732, and 733. There may also be five additional, 1-Hz steps going downwards from 728: 727, 726, 725, 724, and 723, so that eleven frequencies total are run. Each manufacturer may call this function by a different name.

Important! *When you run a sweep, lengthen the time of the overall session.* You're cramming many more frequencies into a program, so you want each micro-stepping frequency to linger long enough to do its job. If you don't devote enough time to each frequency, you'll stimulate the pathogens instead of devitalizing them. So when you're rifting, the more frequency steps you include in the sweep, the more time you'll need. If your unit requires 90 seconds on each frequency, add 90 seconds for each increment. If your unit requires 2 minutes on each frequency, add 2 minutes for each increment, and so on.

Incidentally, the instability of Royal Rife's units was probably beneficial, as the treatments inadvertently swept around the single target frequency. The "main" pathogen was targeted along with the adjacent mutated offspring. Today's machines are much more stable; so we must intentionally program specific, incremental frequencies in a controlled manner.

Q. My rife machine has a feature called *converge*. What does this do?

- A. *Converge* is similar to a sweep. This is built into the equipment to ensure that all the pathogens are targeted in case any mutations arise. Normally, pathogens may escape the effects of frequencies by contorting their

cell walls. When the pathogen changes its shape, it changes its frequency. Theoretically, a symmetrical sweep enables a pathogen to keep contorting in sequential and regular intervals, just a little more with each frequency increment. With a converge, though, the pathogen can't adapt as easily because the changes it must go through are more complex and less predictable—the frequency alternates above and below the target number in random order. For example: 728 is the main or target frequency, and five frequencies below it and five frequencies above it will also be run. But the order of the frequencies might be 733, 723, 732, 724, 731, 725, 730, 726, 729, 727, 728. Because the order is random, the pathogen will be less likely to adapt. Some Rife researchers believe that to prevent mutations and cover all possible MORs of a harmful microbe, a converge works better than a sweep.

Q. My rife machine has a feature called *gate*. What does this do?

- A. Normally the body becomes impervious to a signal that's constant, steady and unwavering. Say someone is stroking your arm with a constant rhythm and pressure. At first you notice the motion and sensation; but after a while, the nervous system compensates for the unrelenting (but non-dangerous) stimulus by becoming anesthetized. This is a natural adaptation; it frees the senses to focus on new stimuli that might require more attention. Similarly, the area of the body harboring the pathogens may become resistant to the frequency device signal. If the body blocks the signal, the pathogens won't be affected.

To bypass possible resistance from both microorganisms and body tissues, engineers add a *gating* feature to their equipment. Gating causes a regular pause in a steady signal, similar to the opening and closing of a gate. The gate is opened to allow a series of signals through, closed briefly, and then opened to allow another series of signals through. This "on, off, on, off, etc.," feature causes a sudden spike on the wave, which drives the frequency into the body so forcefully that the body does not interpret this as a foreign signal and thus does not resist it. This type of wave with an abrupt spike is said by engineers to have a *rapid rise time*.

Most rifers find this spiked waveform desirable (as did Royal Rife himself). However, not all researchers

I've found out so much
about electricity that
I've reached the point
where I understand
nothing and can
explain nothing.

—Pieter van Musschenbroek
Dutch physicist and
mathematician
(1692–1761)

find gating effective. Jimmie Holman writes: “If you are already using well designed equipment that’s capable of accurate and consistent delivery at higher frequencies, the use of gating is actually *counterproductive* because it acts as a break in the steady transfer of energy.” He illustrates his point with the example of soldiers marching on a bridge, who are ordered now and then to “break step.”²² Because their *unison marching rhythm is a wave—in other words, a frequency*—this can make the bridge shake and sway. Sudden halting breaks the rhythm, dissipates the momentum, and stops the swaying. Clearly, the benefits of gating (or the need for it) depend on how the equipment is transferring energy into the body. The goal is to get the body to accept the signal so it can utilize the energy. Holman’s devices, manufactured by Pulsed Technologies, can do this without using a gate feature, and the proof that this works is seen in the results. However, with other equipment, the gate feature is needed and works well.

Among those who prefer a gating feature, there is some debate as to the most effective rate. One analysis of an original Rife Ray revealed an incredibly rapid gating cycle; but as its rapidity was intricately tied to how the unit was configured to transmit frequencies, the rate cannot be applied to modern equipment. Some contemporary manufacturers have a precise formula for the amount of time the signal is on versus the amount of time the signal is off. For example, in one machine, the signal is on two-thirds of the time and off for one-third of the time. Some manufacturers build their units to be programmable with varied gating rates. Dr. Richard Loyd even has a formula for gating percentage according to the which frequency is being used.

Ultimately, the on-off rate of gating may be less important than the fact that the unit can be gated at all. The purpose of gating is to ensure signal penetration; so as long as both the body and the harmful microbes are receptive to the frequencies, that’s the most important thing. One researcher is experimenting with higher-than-usual gating cycles. However, they appear to produce physiological responses rather than kill harmful microbes, and their effects are still largely unknown. Thus, they aren’t recommended for the average user. Be aware that most RF plasma units cannot sustain abnormally high gating cycles.

One more thing. *Do not use the gate and the sweep functions at the same time, ever!* Some of the frequencies will run during the period when the signal is in the “off” portion of the gate, resulting in incomplete coverage of those frequencies, or even missing coverage of those frequencies entirely.

Q. My rife machine has a feature called *pulse*. What does this do?

A. Many rifers (who are not engineers) use the term *pulsing* when they really mean “gating” (discussed in the previous question). This can be confusing, because the word “pulse” is used in the phrase “Pulsed Electromagnetic Fields” (PEMFs), which means something else entirely. My personal preference, then, is to use the term “gate” instead of “pulse.”

Q. My unit already contains some protocols. Did someone program frequencies into the unit and forget to erase them? Was I sent a used or reconditioned unit?

A. Many rife machine manufacturers pre-load programs into their new units as a courtesy to their customers. They realize that some people are too ill to program the units themselves, and thus welcome this convenience. Some of the custom programs are popular frequencies for common ailments, while others may be for cancer. By the way, because your machine cannot be sold as a medical device (see pages 560–561), the cancer programs might not be called “cancer.” Instead, the readout might say “CAN” or something else.

Ask the seller if your machine is used. If it was, you should have received a discount in price.

Q. I’d like to decrease the amount of time I spend rifing. Some machines can transmit several frequencies simultaneously. Are they reliable?

A. There are two well-known frequency machines that can deliver more than one frequency at a time: the radiant plasma PERL M+ from Resonant Light, and the GB-4000 pad unit from AAA Productions. With the PERL-M, the radiant plasma part of the unit is powered by a portable generator called a ProGen 2. Two or three ProGen 2 generators can be hooked up together in sequence, which allows two or three frequencies to be emitted from the radiant plasma tube at the same time. With the GB-4000, up to eight different frequencies can be transmitted simultaneously through the hand-held electrodes.

To answer this question, I’ll provide the engineering perspective first. One engineer (who does not sell equipment himself) measured the waveforms emitted by the device on an oscilloscope, and found that the integrity of the frequencies may be compromised. Jimmie Holman of Pulsed Technologies describes how this could happen:

Imagine swinging on a swing. If someone pushes you at the right time, the amplitude (height) of your swing increases and you can go very high. But the pushing has to be in tune with your natural frequency. If someone pushes you at random intervals, chances are it will not cause you to swing much higher. In fact, another hand pushing the swing at a different frequency, at just the right point in time, might even disrupt the momentum already gained and built up, and make you swing less.²³

This principle applies to more than swings. Earlier, I mentioned soldiers “breaking step” after rigorous marching in synchronous rhythm. The synchronous marching makes the bridge sway, while not marching at the same time halts the swaying. If everyone walks across the bridge at their own pace, in staggered steps, the bridge no longer sways. It might shake, but any momentum produced by one long, continuous wave is considerably reduced or eliminated entirely. Apply this principle to many frequencies being emitted simultaneously: a session’s effectiveness will suffer.

Also consider power. With more frequencies sharing the same power level, the output of each frequency is lessened. Thus, from an engineering perspective, effectiveness is greatly reduced by the multi-frequency function. Even Jeff Garff, designer of the multi-frequency GB-4000, concedes that simultaneously transmitted frequencies can interfere with each other.

Nevertheless, in real life, the majority of people who use such machines report major or complete relief from their ailments. This leads to the question: If a waveform consisting of combined multiple frequencies has less power than each individual frequency alone, why are the GB-4000 or the PERL-M (to use two examples) reported by users to be effective? Their success may be due to an RF (radio frequency) *amplifier*, which drives the signal more deeply into the body. Other principles may also be involved—for instance, the host’s cellular function has improved due to the recharging of cells, independent of any pathogen devitalization that might be occurring. Ultimately, it’s the user’s experience that determines effectiveness.

Q. Do rife machines require special care?

- A.** High quality electrode equipment generally costs around a thousand dollars, while radiant plasma units can be five thousand dollars or more. *Make sure to*

use a surge protector, as you would with a computer, DVD player, or other electrical equipment. This will protect the delicate components from being damaged from unwanted surges of power (which can occur during lightning storms). *You cannot afford to have this equipment break down.* Some surge protectors guarantee against equipment damage to \$50,000. It’s worth investing thirty or fifty dollars for a good surge protector to preserve and extend the life of your rife unit. As with other electronics, keep the rife machine away from extremes of moisture and temperature. And wipe it clean according to the manufacturer’s instructions. You can cover it when it’s not being used.

Q. Will my rife machine affect other electronic equipment?

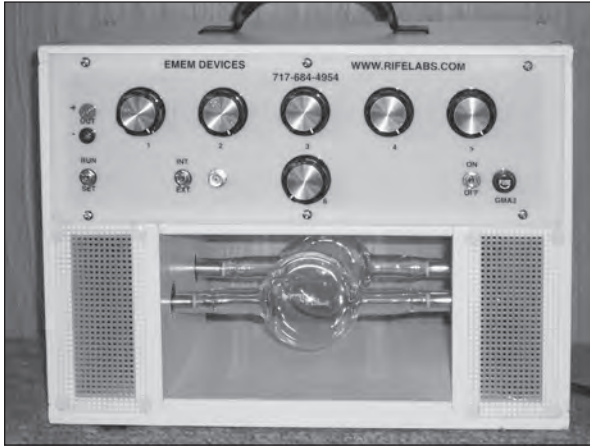
- A.** This depends on the type of rife machine and how it’s manufactured. Electrode units don’t interfere with other machines because the frequencies are not transmitted through the air.

A plasma unit won’t affect other electronics unless it’s not properly grounded, although an RF carrier wave might still cause a problem. All plasma instruments emit audio signals that are audible in certain ranges and can be heard through telephones, TVs, and some other appliances. This is normal and temporary, and doesn’t hurt either the rife machine or the other electronics. If there’s too much interference, plug the rife machine into a different electrical outlet, even one in another room. Or buy a clamshell RF choke from an electronics supply store and clip it around the electrical cord of your rife machine. This will reduce the effects of a “noisy” machine.

Q. My large heavy unit, which runs on a computer, is on a metal cart so I can wheel it from room to room. When I turn it on, the display is distorted. Why?

- A.** A metal object can act as an antenna: it can absorb, dampen, conduct, change, or otherwise interfere with the plasma tube’s signal. Assuming there’s nothing wrong with the cables or ground wires leading in or out of the device, the problem is due to signal interference from the metal cart. The change in the monitor’s picture indicates distortions in the magnetic field around the monitor as the metal conducts a portion of the field back into the circuitry of the machine. Use a wood or plastic cart.

Hand Built EMEM Equipment from Experienced Engineers



EMEM, or “Electro Magnetic Energy Machine”

Bubble-shaped plasma tubes are common. This machine is equipped with two tubes. Frequencies are manually dialed using the front knobs, characteristic of all analogue units. A frequency generator such as the ProGen 3 (next page) can be plugged into the external input jack, providing many automatic features to make the unit digital.

Courtesy of Dave Nelson

another EMEM plasma unit

Like the above unit, frequencies are manually dialed using the front knobs, making this EMEM analogue. A frequency generator such as the ProGen 3 (next page) can be plugged into the external input jack, providing many automatic features to make the unit digital and able to perform many signal processing functions found on fancier units. Users have reported feeling its output strongly.

Courtesy of Dave Felt



Frequency Equipment from Resonant Light Technology Inc.

PERL M+

Size: about 17.5" wide $\times$ 5.5" high $\times$ 12.5" deep

This radiant plasma unit, based on the patent held by James Bare, uses an RF carrier wave and comes with an optional hard case for traveling with storage for extra light tube, accessories and manuals. (ProGen 3, the generator in the front that runs the unit, looks much larger than it actually is.)



ProGen 3

Size: about 6" $\times$ 6.5" $\times$ 1" deep

Newly designed, it has over 8000 channels for frequency sets that can be saved after being programmed.

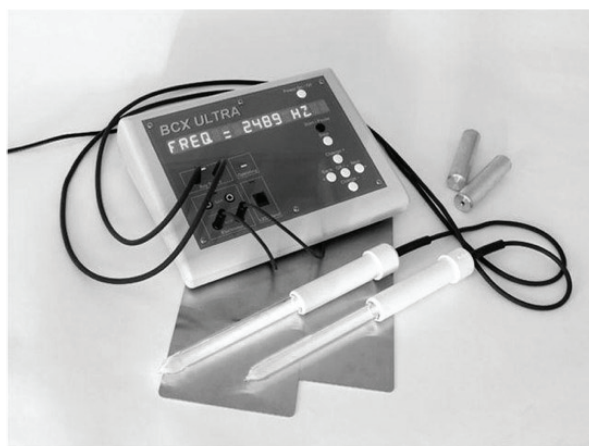
Emits frequencies up to 3.1 MHz.

It can run the PERL M+ at the same time as two contact accessories such as hand-held electrodes or patch electrodes.



The PERL M+ can be run with up to three ProGen 3 generators, permitting up to three different frequencies to be emitted by the single tube. The screen in background is optional. It can be plugged into an auxiliary port to emit frequencies inputted from a computer or other instrument.

Frequency Equipment from Subtle Light & Sound Technology



BCX Ultra

Small and portable, with hand-held electrodes, foot plates, and hand-held ray tubes that use an RF carrier wave. Digital readout displays the frequencies, times, and custom gating and waveform features. (Further specifications unavailable from manufacturer.)

Radiant plasma tube, which connects to the BCX Ultra, is a circular spiral with a large open core. The subject usually sits or lies near the machine, but can also place a hand, wrist or forearm at the center of the spiral to treat injuries.



Frequency Equipment from Pulsed Technologies



PFG 2Z (Precision Function Generator)

Size: a compact 6" × 3.5" × 1"

Designed for a USB interface with a computer, it's controlled by the PFG Lab software (included). A Universal AC power supply comes with plug adaptors for most countries.



P3Pro (Precision Pulsed Plasma for Professionals)

Size: about 16" wide × 10" high × 3.5" deep

Its embedded PFG 2Z Precision Function Generator can emit frequencies via electrodes or radiant plasma. Designed to interface with a Windows-based PC, notebook, or tablet computer, it's run by the PFG Lab software (included). The P3Pro includes the imprintable Colloidal Silver maker.

Frequency Equipment from Pulsed Technologies continued



P3 (Precision Pulsed Plasma)

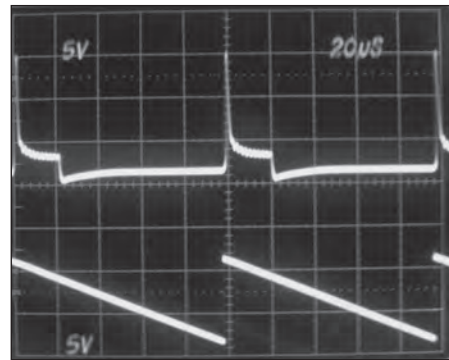
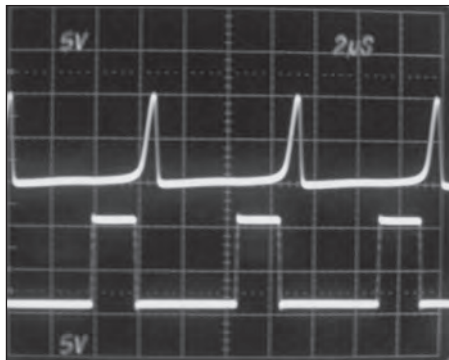
Size: 16" long, 4" diameter

The integrated feet at the bottom allow for tilt positioning.

This unit is controlled by the PFG Lab software and the PFG 2Z Precision Function Generator.

Its power supply is universal.

The P3 Plasma system can be easily added to any existing PFG 2Z (or earlier) system.



No Pulsed Technologies unit uses an RF carrier wave.

Instead, unique engineering changes the waveforms.

Photos depict waves from two Pulsed Technologies plasma units as seen on an oscilloscope.

Bottom: Waves sent from the function generator to the tube.

Top: Waves emitted from the tube.

The manipulated waveform sent into the tube by the frequency generator is entirely different from the waveform coming out of the tube.

The fast rise times and sharp points to the waves drive the signal deep into the body.

Frequency Equipment from Pulsed Technologies continued



iCS (imprintable Colloidal Silver) maker

Connects to Pulsed Technologies PFG 2Z (*right*), earlier model generators, and the P3Pro. To manufacture colloidal silver, it uses Pulsed Technologies PFG Lab software (included). The ionic silver solution is created with silver particles up to 50 ppm. A second, optional step imprints the fluid with frequencies the user selects. The solution can be used in the same manner as any homeopathic or colloidal silver solution.



VSG (VitaSet Generator) Size: 7.5" × 9.5" × 1.5" deep

VSG, controlled by microprocessor, aids those affected by high electrosmog environments.

Day Mode: Cycles throughout the five primary natural Schumann Resonances.

Night Mode: Cycles through certain subharmonics of Schumann Resonances corresponding to regenerative brainwave states to help induce sleep (via brainwave entrainment).

Unit can be set to automatically switch between day and night modes, or it can be manually overridden. Operates on universal AC or battery for travel; adaptor and plugs included.

Frequency Equipment from Health Balances



F-Scan®

Size: 8.5" × 6.1" × 5.5"

This Swiss-made device has a touch screen.

It uses any type of electrode, including cylinders and patches.

To analyze which frequencies the person needs, it scans the body for resonating frequencies or “hits,” and then delivers them to the user.

The F-Scan® with its touch screen in operation. Peaks on the graph show resonant hits.



F-Scan Compact®

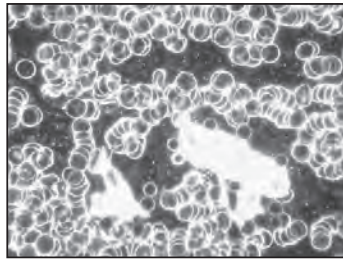
Small enough to fit into a pocket.

Frequencies can be downloaded into it from the larger unit, or it can be programmed by itself.

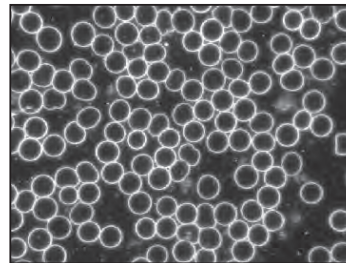
Compact is also equipped with built-in frequency programs. A more advanced Compact model can also scan.

Rechargeable battery lasts for up to 3½ hours.

Frequency Equipment from Health Balances continued



Live blood, before session with F-Scan®



Live blood, after session with F-Scan®

Rife researcher Richard Loyd, PhD, comments: “In September 2001, I had the privilege of taking part in a seminar in Tokyo. At the seminar, a dark field demonstration was done on a volunteer. The blood was sticky and there was a lot of fibrin, which is often caused by infection. Frequencies were administered using the F-Scan. A second sample of blood showed that the stickiness had broken up and the fibrin was gone. I was told that this demonstration is often done with similar results. Since then I have tried this several times and have noticed that 62,000 Hz and 63,000 Hz are very common hits. The blood always looks much better after the frequencies are applied.”

*Courtesy of Dr. Richard Loyd and Wismerll (wismerll.co.jp),
a manufacturer of medical devices including a dark field microscope for live blood analysis*



The F-Scan® at a different angle,
with a different setting on the screen.

Courtesy of Timo Böhme

Frequency Equipment from AAA Production



GB-4000 (*right*)

A frequency generator with a 3.1 MHz carrier frequency, it emits and sweeps from 1 to 20 million Hz.

Can be used as a contact device with either hand or foot electrodes.

Can simultaneously run two frequencies from 40,000 Hz to 20 million Hz, or as many as eight frequencies up to 40,000 Hz.

SR-4 amplifier (*optional, left*)

Has a variable power output.

Size of each: 9.5" wide × 4" high × 8" deep



M.O.P.A. (Master Oscillator Power Amplifier), plasma tube on top (*left*)

Size (components in box): 17" wide × 10.5" high × 10.5" deep

Size (tube only): 15" wide × 9" high × 7" deep

Inspired by Royal Rife's 1930s Beam Rays Corporation design, it uses a tank coil and vacuum tube and outputs sideband frequencies.

The tube is sold by a company separate from AAA Production.

The GB-4000 (*right*) runs the radiant plasma M.O.P.A.

The Ergonom Microscope from Grayfield Optical Inc.

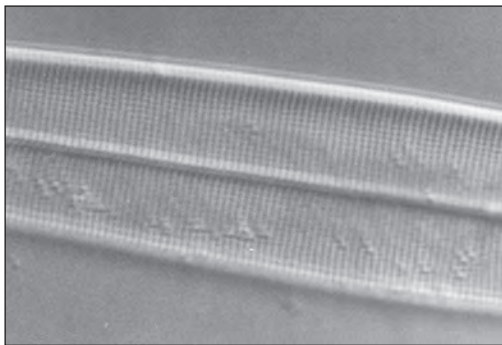


Ergonom 500

One of several Ergonom models.

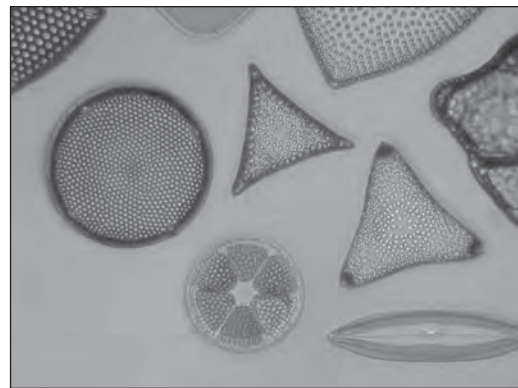
In 1976, Kurt Olbrich invented a microscope with slightly higher magnification levels, better depth of field, and more vivid color contrast than Rife's instruments.

Operating on different principles than Rife's microscopes, the Ergonom is considerably easier to use as it requires no staining, oil immersion, or complicated focusing.

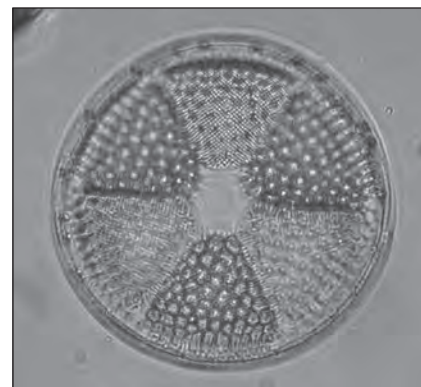


Amphipleura pellucida, a type of microscopic algae, as seen through the Ergonom.

The finely detailed markings on this species are not as clearly visible under typical microscopes.



Various diatoms, as seen through the Ergonom. These microscopic algae come in different shapes.



Close-up of a diatom from the above group.

Q. I'm nervous about running equipment that's used for serious therapy. Aren't rife machines difficult to operate?

- A.** The ease of rifting depends on how comfortable you are with electronic equipment, the features of the machine you're using, and how ill you are. Some units are no more complicated to operate than a simple DVD player, while others are more complicated, especially if they have multiple programming options. A surprisingly large number of people are leery of rife technology because they're intimidated by machines. If you're technophobic, ask someone who has grown up with computers and fancy electronics gadgets—your son, daughter, grandchild or a kid in the neighborhood—to help you. With a little practice, you'll soon be comfortable operating the machine.

People who are very ill often require extra assistance, even if the device is user-friendly and the seller provides competent telephone technical support. If you have a serious health condition, ask a relative or friend to help you set up and operate the machine. The following story illustrates how important this can be.

A woman with a debilitating case of Lyme once sought my help because she was having trouble with her unit. She sent it back to the manufacturer for repair soon after she bought it. After she received it a second time, it still didn't work for her. Fuming, she returned the unit and demanded a refund. Knowing that the manufacturer is very ethical, I called the owner in great surprise and asked what the problem was. She explained that the machine had worked perfectly each time it was tested in the company's lab. However, she said, they would refund the customer's money anyway because she was apparently too ill to operate the machine properly. This appraisal made sense to me, as the customer had told me herself that one of her symptoms was "intense brain fog." Unfortunately, this woman did not have any friends or family members who could operate the machine for her. So, if you want to use a rife machine but feel too ill to run it, I urge you to find someone to program the unit—and if necessary, even push buttons for you—until you're well enough to run the equipment yourself.

A reliable vendor will include an operator's manual with your unit (printed, on disc, or downloadable

online). Note that an operator's manual is limited to the features and care of the device, and how to operate it to transmit a signal. Unlike a frequency manual (such as Chapter 5 of this book), an operator's manual does *not* describe what conditions the frequencies themselves are designed to address. It can't, for legal reasons.

Q. Diagrams on the Internet explain how to build a rife machine. How hard could it be to construct my own?

- A.** *Be very careful! Do not assume that these units are simple or cheap, or that anybody can build them.* To those unfamiliar with engineering or electronics, constructing a rife technology device might seem simple. Yet there are many variables that help make a machine successful: voltage, the gases in the tube, the pressure of the gases, how the wiring inside the tube is wrapped, the positions of the internal components, the lengths of the cables, the shape of the wave—and the combination of all these elements. Also, different gases amplify the frequencies in different ways and these gases subjectively feel different. Unless you're skilled in electronics and really know what you're doing, you may create a device that not only doesn't work properly, but that could seriously injure you.

I'll never forget a man I met at a holistic health conference about two decades ago. Having just begun to tinker with electronics, he fancied himself an expert and boasted that he could build a better rife machine than those built by other people with much more experience. Then he inadvertently discredited himself by sharing what happened when he built his first unit. It's hard to know whether he made so-called improvements to the schematic or simply built it incorrectly—or even if the plans were accurate. At any rate, he didn't notice anything unusual after turning on the unit, but his wife began to suffer excruciating pains in her chest. She repeatedly asked him to turn off the machine; but as he was focused on his handiwork and not her, it took a while for him to respond. By the time he turned off the machine, she had suffered heart damage.

Don't let this story dissuade you from buying a unit or borrowing someone else's; I told it to make a point. Your unit should be made by an experienced engineer. Although the plans for a rife machine might seem simple, it's not worth risking your life, or the lives of those you love, by building dangerous or malfunctioning

Knowing others is intelligence;
knowing yourself is true wisdom.
Mastering others is strength;
mastering yourself is true power.

—Lao-Tzu

Chinese philosopher and writer,
the founder of Taoism, and
regarded as the author of the
Tao Te Ching
(died 531 BCE)

equipment. If you're a beginner in electronics, a rife machine is not a wise first project! Even if the unit you build is merely ineffective rather than dangerous, if you intend to use it for a serious or life-threatening condition, you'll lose valuable time working with a machine that doesn't produce results. Reliable companies thoroughly test their units before releasing them for sale.

Q. Why do manufacturers charge so much? Don't they care about people's lives?

A. The best answer is from a frequency device builder.

These machines are built from custom components that must be shipped in from all over the world. The same holds true for the oscillators, front bulb connectors, many internal parts and components, shields, grounding tubes, and just about everything else that is developed to improve this technology. The bulbs are hand blown.

Hours are spent in research and development. Something as simple as upgrading to a new oscillator may involve up to a hundred hours to retrofit it into a previous machine. Few people understand or realize what is behind this technology. And the work doesn't stop with the sale. Frequently I give ten hours of additional support or more to each customer. There is also the cost of providing warranty service.

If these machines were mass produced like computers, the prices would be a fraction of what they are now. But at this time, frequency devices are used by a limited number of people. Consider, too, the constant risk factor from various medical and government agencies that may decide to destroy your years of investment at any given time. It is a wonder that anyone is willing to produce these machines at all. [This pertains to the US and Canada; in many European countries, devices are less expensive because they're legal for medical use.]²⁴

Manufacturers have to eat, too. Earning a living wage from the sale of rife machines can be an honorable profession. (Compare this to unproven drugs from companies that routinely lie to the public.) If a particular device isn't suitable for your needs, keep looking. Appendix A lists some manufacturers as well as Internet rifting groups. Many experimenters are eager to share their experiences, and will tell you what has and hasn't worked for them.

Q. I'm convinced that I need to buy my own unit. Should I try to obtain a real rife machine?

A. If by "real rife machine" you mean Rife's best Beam Rays device (from 1934), it's almost impossible to find a working model available for public use. Also, as Rife researcher Jason Ringas has stated, "There is no true Rife technology, only true Rife methodology."²⁵ Modern frequency machines aren't exactly like Rife's original devices due to three factors: legal restrictions (manufacturers aren't permitted to use the high RF carrier wave that Rife used); the availability of different components; and incomplete knowledge of how Rife's equipment worked. However, although contemporary devices don't work exactly the same way as Rife's original machines, they do devitalize pathogens and help normalize body systems.

The best modern frequency equipment has a good to excellent track record in restoring health. Considering the toxic effects of drugs and the trauma of surgery, I can't imagine why anyone wouldn't want to at least give Rife Therapy a fair trial. By the way, the FDA is hostile toward any equipment associated with the name "Rife." The few companies whose units *are* legitimized by the FDA never use the word "rife."

Q. Some rife units in the United States are approved by the FDA. Are these machines better than the ones that aren't approved?

A. It's highly unlikely that a rife machine is "approved" by the FDA. "Approval," when used in conjunction with the FDA, is a legal term that refers to *medical devices only*. I'm not aware of any modern equipment, promoted as based on Rife's technology, that the FDA categorizes or has approved as a medical device. It costs billions of dollars to get a piece of equipment approved for medical purposes, and I don't know any rife machine manufacturers who can invest huge sums of money. Even if the funds were available, you may recall from Chapter 2 that the FDA has always been hostile towards Rife and the doctors who used his equipment, as frequency therapy can equal lost income from pharmaceuticals. Except for some experiments that use a modified Bare-Rife unit in a medically supervised setting (see Appendix E), that climate—at least in the US—has not changed very much since Rife's time. Chances are, any company claiming that its units are "approved" either doesn't understand the terminology or is using a misleading marketing ploy to sell machines (at the risk of getting into extensive legal trouble).

The FDA has very specific guidelines regarding what it does and does not allow. Briefly, medical equipment is *cleared* (not “approved”) by the FDA if the agency has determined that the equipment is substantially equivalent to another device that has already been legally marketed. New and different medical devices are generally considered “high-risk,” so they must be submitted for *approval* and are subjected to a much more stringent and critical review.

Because of the sums of money involved in getting a medical device approved—and the chance that a non-invasive, genuinely healing machine might *not* be approved—some manufacturers of electromedical equipment (whether “rife” or not) apply for FDA clearance. *Clearance* means: “If it’s like something that’s already legally on the market, you can sell it.” As it turns out, the one medical device that’s already legally on the market is the well-known *TENS* unit, which stands for “Transcutaneous Electrical Nerve Stimulation.” The TENS unit is a convenient standard for FDA clearance, even if the equipment that’s cleared is very different in principle from a TENS machine. Avazzia instruments and the Tennant Biomodulator® have been classified as TENS units. The website of a coded frequency machine also states that the unit has been cleared by the FDA in the TENS category.

Not surprisingly, a TENS unit doesn’t heal. It operates on very different principles, and has vastly different effects on the body, than any rife-style machine. TENS was developed specifically for *pain relief*, but the means by which it controls pain is anything but natural: it emits current at *much* higher levels than that produced by the body’s own nervous system. These high levels of current numb and deaden certain nerve fibers so pain is no longer felt. The machine “works” by temporarily suppressing symptoms, not by restoring cell and tissue function.

Rife’s technology works not only by devitalizing pathogens (which brings us into the forbidden medical realm, as far as FDA approval is concerned), but also by energizing cells, not deadening them. However, if a rife machine company wants to avoid legal problems, it must obey the law. If a holistic electromedical device is FDA-cleared, the company is legally prohibited from discussing, advertising or promoting its product for anything other than what the FDA has allowed. (This means that the company is obliged to publicly

undervalue the capabilities of its unit.) All uses other than the TENS-related pain relief function are *off label*. This term is often used for practitioners, who at their own discretion may choose to use a piece of equipment (or drug) in a manner that hasn’t been approved by the FDA.

If a rife machine company falsely claims that its unit is “approved by the FDA”—or if it associates the names of diseases, or the words “cure” or “treat” with its machine—it’s breaking the law. To some laypersons, as long as the equipment works these legalities may

not matter. However, I prefer dealing with companies that know and obey the law. And to a doctor, naturopath, massage therapist, chiropractor or other licensed professional, it may matter a great deal to buy and use equipment only from companies that obey the law.

By the way, anyone who sells or manufactures a rife machine and uses the word “device” to describe the unit, could go to jail. (People not involved with sales or manufacture are free to use the word.) See Sidebar on page 562, “The Appropriation of Language.”

Believe nothing,
no matter where you read it,
or who said it,
no matter if I have said it,
unless it agrees with
your own reason
and your own common sense.

—Buddha (Siddhartha Gautama),
founder of Buddhism, born in Nepal
in the 5th or 6th century BCE

Rife Sessions—When Using Any Machine

Q. What is a *Herxheimer* reaction?

A. A *Herxheimer* reaction is a fancy name for detoxification response. It’s named after the German dermatologist Karl Herxheimer (1861–1942) who described it. He found that “Herxing” was the result of the foreign proteins released by dying pathogens. (Sometimes this response is called the *Jarisch-Herxheimer* reaction, after Austrian dermatologist Adolf Jarisch (1850–1902) as well, who published his description of the same phenomenon seven years before Karl Herxheimer did.)

Excessively large amounts of microbial waste prevent the body from adequately eliminating it through the usual channels (breakdown by the liver, and through the colon or urinary tract). Instead, the toxic material is discharged through the lungs, sinuses and skin. Symptoms often feel like the flu: fever, with or without chills; heavy perspiration or night sweats; headache; malaise; diarrhea, nausea and vomiting; pain in joints, muscles and bones; and itching, flushing, and red areas of skin. Lower back pain may also be involved, as the kidneys (located in the lower back) are responsible for filtering out debris.

The Appropriation of Language

Most people aren't aware that the word "device" has been appropriated by the FDA. The common(sense) definition of the word, used in normal and casual conversation, is "a piece of equipment or a mechanism designed to serve a special purpose or perform a special function [such as] smartphones and other electronic devices."²⁶ Based on this definition, it's natural to assume that the phrase "frequency equipment" or "rife machine" can be used interchangeably with the phrase "frequency device." However, according to the FDA website, when used in a context that suggests medicine or the elimination of a health problem, a "device" can "range from simple tongue depressors and bedpans to complex programmable pacemakers with micro-chip technology and laser surgical devices." The FDA website further states:

If a product is labeled, promoted or used in a manner that meets the following definition in section 201(h) of the Federal Food Drug & Cosmetic (FD&C) Act it will be regulated by the Food and Drug Administration (FDA) as a medical device and is subject to premarketing and postmarketing regulatory controls. A device is: "an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent, or other similar or related article, including a component part, or accessory which is: recognized in the official National Formulary, or the United States Pharmacopoeia, or any supplement to them, intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, in man or other animals, or intended to affect the structure or any function of the body of man or other animals, and which does not achieve its primary intended purposes through chemical action within or on the body of man or other animals and which is not dependent upon being metabolized for the achievement of any of its primary intended purposes."²⁷

The FDA has appropriated other words as well. If a frequency equipment manufacturer uses the words "treatment," "disease" and "cure" in conjunction with their equipment—and the unit has not been approved by the FDA for medical purposes—then the manufacturer can be legally accused of falsely labeling a machine for medical purposes, and could go to jail.

Q. What can I expect to feel during a rife session?

A. There are several possibilities.

- ◆ *Changes in energy levels.* You may feel more relaxed or more energized. This primarily relates to the beneficial effects of many frequencies on cell metabolism and the normalization of tissues, independent of pathogen devitalization.
- ◆ *A Herxheimer reaction.* If a pathogen is being devitalized or deactivated quickly, you may feel the effects of a die-off (see the previous question, "What is a *Herxheimer* reaction?"). However, normally it takes several hours or even a day to experience this type of response. If your equipment is truly devitalizing or killing pathogens, you'll experience *less of a Herx reaction* the next time you use the equipment—assuming that your next session is within a few days. If you wait a week or longer between sessions, this will give the pathogens an opportunity to recolonize.
- ◆ *A physiological response.* You may respond to a certain frequency that feels like a "hit." Australian rifer and massage therapist Ken Uzzell defines a hit as "an immediate physiological response that the body generates as a result of a frequency."²⁸ Any notable sensation felt during a session could be a hit: itching, prickling or burning on the scalp and skin; watering eyes; the clearing of sinuses or runny nose; chest tightness; churning stomach; altered breathing; quickening pulse; tingling nerves; noise in the ears; pressure in the joints or muscles; and twitches (some of which might be focused in the feet or hands). You may simply have a vague sense that "something" is happening. Uzzell reports that users experience tingling at the site of tumors and fatty lumps that are being kneaded while his plasma device is running. Hits seem to be felt primarily when frequencies below 20,000 Hz are being used, because these are in the range of the nervous system. Jason Ringas, of the now-defunct Rife Research Group of Canada, once wrote: "When people talk about feeling a 'hit,' what they are describing is clearly a physiological response. There might also be an MOR effect taking place, but that effect can't be felt because when you're targeting an organism it takes time for it to clear out of the body and for the damaged tissue to repair. The audio frequency physiologic effect is very important in its own right, but it cannot be explained in terms of the MOR effect."²⁹

- ◆ *A negative reaction from the pathogens you're targeting.* You might be feeling bad because the pathogens you're targeting are feeling irritated instead of becoming disabled. "A surprising number of people," remarks scientist and equipment manufacturer Jimmie Holman, "misinterpret their reactions during and after rifting when they incorrectly assume that what they're experiencing is a Herxheimer or 'die-off' reaction. *When the Herx reaction is reported over and over again, at the same level*, it's unlikely that the intended die-off is occurring. Instead, what these rifers are experiencing *is the result of irritating a pathogen that is successfully fighting back*. This happens especially in the case of Lyme, when the spirochete is releasing its neurotoxin."³⁰
- ◆ *A negative response to the equipment you're using.* If your equipment is using an RF (radio frequency) carrier wave, or if there's another especially strong signal to which you're extra sensitive, your body could be metabolically disrupted. See the next page for instructions explaining how to tell if you're having a negative reaction to RF.

Royal Rife himself reported that subjects did not feel any sensations. However, his equipment was made very differently from modern machines, and it ran very high frequencies. If you don't feel anything while rifting, don't be concerned. What happens *after* the session is more important.

Q. What's the difference between a detox (Herxheimer) reaction from rifting and actually being sick? They feel similar.

- A.** On one level, it doesn't really matter *where* the symptoms are coming from when you're feeling awful. But there are important differences between the two as well as similarities. First I'll describe a Herx reaction, also known as a healing crisis, and then I'll define illness.

The symptoms of illness are the body's attempt to eliminate toxic debris. Fever is a strategy to literally "cook" pathogens to death, as most of them cannot survive above certain high temperatures. Coughing is a natural reflex of the respiratory tract to expel germs that have become embedded in the mucous membrane lining of the lungs. (The production of excess mucus itself is the body's way of trapping pathogens and other debris that might otherwise seep into the bloodstream.) By sneezing, the body tries to expel foreign particles (such as dust or pollen) that have migrated up through the nose. The throat feels sore from lymph nodes in the neck that have become swollen from the extra white blood cells they create to fight infections. Vomiting and diarrhea are the body's way of discharging poisons (spoiled food or dangerous chemicals) in the stomach. And an eruption of hives, boils or a rash signifies too much waste for the body (usually the liver) to handle internally, making it necessary for the debris to be expelled through the skin.

On Physiology, Fascia, and Rifting

Pathogens are probably the cause of some responses people feel during rifting. When the right frequencies are used on people suffering from *Candida*, colds and flu, the "hit" is felt strongly at the pathogen location in the body, and the symptoms totally fade from a few minutes for colds and flu, to a few days for heavy *Candida* infections. Hits can also be experienced at the site of cancer tumors and cells, although I wouldn't know if this response comes from the cancer cells themselves, or associated pathogens, mold and fungus present at the cancer site.

I have also observed fascial release in frequency sessions on friends. The fascia, a thin membrane encasing the muscles, can become traumatized, bound up and tight, restricting movement. During rife sessions, I have seen the fascia release trauma and thus function better—correctly hydrate again and instantly encourage a huge improvement of electrochemical and fluid movement within the body's pathways. I believe that this is a major contributing factor when people experience an almost instant normalization of blood pressure and a very fast return to health during massage. I also believe that this is the mode at work when we hear of miracle healings attributed to frequency therapy sessions. When deep and complete levels of fascial release occur, miracle healings are to be expected, as the body has huge resources to quickly combat disease.

The fascia is a good tissue for resonance and response, from a frequency session standpoint. A trained massage therapist can easily check to see if a major fascia trauma release response has occurred, which I have noted at times. From my observations, frequencies between 50 Hz and 1,000 Hz generate this release. As the bound fascia structures will always be different in the body (even different from day to day), the frequencies [that you need] may differ as well.

—Ken Uzzell, Australia
massage therapist and rifer, 2006

Thus, “symptoms” are merely the body’s ways of trying to eliminate what doesn’t belong in it. *Preventing the body from doing its job by trying to suppress fevers, coughing, sore throat, vomiting, diarrhea, rashes, sneezing, etc.*, can be counterproductive because many of the toxic waste materials will remain. Small amounts of living pathogens (or *their* waste materials) may exist at what’s called a “sub-clinical” level—too low to be detected by standard allopathic tests, but present in enough quantity to make a sensitive person feel unwell. Thus, when people try to alleviate or abolish “symptoms,” they’re usually halting a process that should have been allowed to finish, as long as the symptoms themselves aren’t life-threatening.

Back to rife sessions: when someone correctly targets one or more type of pathogen while rifting, even if s/he didn’t feel particularly ill before, s/he may feel ill now due to a detox response. Detoxification and illness often feel similar because *a detoxification response can result from an arrested disease*. When the pathogens that have remained in the body are finally targeted by the correct frequencies, we may feel as though we’re getting sick all over again: waste materials are released, causing the body to again go through an elimination cycle (sore throat, skin rashes, nausea, diarrhea, etc.).

A detoxification response can also result from *incompletely metabolized foods and incompletely discharged waste materials* that are unrelated to pathogens. Many people who go on a juice fast, or a simple diet of raw fruits and vegetables, experience uncomfortable, even painful symptoms such as nausea, runny nose or muscle weakness. The lighter diet

rests the digestive organs and evokes a cleaning-out response in the body as old junk gets pulled out of the fat cells and other tissues. Toxins—previously stored, and now circulating through the bloodstream—can make us feel worse if we can’t excrete them fast enough. This is why experimenters commonly take herbs, clay, activated charcoal, and/or protease enzymes to help bind and excrete toxins before the toxins can again migrate back to vulnerable tissues.

The line between a healing or detox response and a disease crisis is crossed when the body can no longer eliminate poisons, and begins to degenerate. During a healing response, the body rids itself of accumulated waste and then revitalizes itself. During a disease crisis, the body can no longer revitalize due to weakness or too many poisons, at which point medical intervention is required. See Sidebar, “Distinguishing a Healing Response from a Disease Crisis.”

Some people believe that if they’re not experiencing discomfort, then the rife sessions aren’t working. This isn’t true. Plenty of rifers get good results without undergoing what they perceive as a Herx.

Regardless of whether you’re experiencing a detox response or disease crisis, if pathogens are involved, they need to be disabled or killed. Frequency devices can also help restore cell function, which is why rifting is useful for many different circumstances.

Q. How do I know if I’m having a detox (Herx) reaction from rifting or if I’m feeling ill because of the RF from my unit?

A. Here’s a simple test:

Distinguishing a Healing Response from a Disease Crisis	
Healing Response	Disease Crisis
Person feels bad, but then feels better.	Person feels bad, with little or no relief.
The response occurs over a short period. A general rule is one month of healing for every year the person has been ill.	The response occurs over a long period. A health care professional can help assess how long is “too long.”
There is a retracing of prior symptoms, often from decades ago.	There is a continuation of prior symptoms, often with the addition of new ones.
Organs, glands, and the body in general function better.	There is wide-ranging degeneration of organs, glands, and perhaps the body in general.

- ◆ *Step 1.* Sit one to three feet from your RF unit. Run 10,000 Hz, a frequency that helps with cellular repair but doesn't kill pathogens. If you feel bad, you're probably responding to the RF.
- ◆ *Step 2.* Now you need to see if being farther away from the RF unit will help. Sit at least six feet (or seven feet, maximum) from the machine—again, keeping the test signal constant at 10,000 Hz. If you do feel better, you'll know that the RF is no longer affecting you negatively.
- ◆ *Step 3.* Now you need to know if the machine will be effective for you at the distance you selected. Did you feel better because no RF reached you, because of the 10,000 Hz signal—or both? To test whether a given frequency will reach you, sit at the same distance away from the machine (six to seven feet) and run a frequency that targets an infection you know you have. If your infection progressively dwindles, you'll know that the distance you selected is effective. Plus, you have just confirmed what you must do to safely use an RF unit.

Alternatively, if you have two machines—one that uses RF, and one that doesn't—you can perform this simple experiment. Sequentially run 10,000 Hz on each machine, sitting the same distance from each (between four and six feet). If you feel the same from both machines after 20 minutes or so, you'll know that RF doesn't negatively affect you. If you feel bad with the RF but good (or neutral) with the non-RF equipment, you'll know that RF signals don't agree with your system.

Q. Why do some people feel worse immediately after having a rife session, while other people feel better?

- A.** Assuming that you're not reacting to RF or something else related to the equipment, how you feel largely depends on the ease with which your body detoxifies.

During or after a rife session, you may feel better—lighter, clearer, less congested, a decrease in pain, or a partial or even complete elimination of symptoms. But you may also feel worse, depending on the amount of microbial die-off. Symptoms of die-off can closely mimic feelings of illness or detoxification. (They may also mimic some of the physiological responses felt *during* a session.) These sensations can include dizziness, moodiness and irritability, an inability to focus, fatigue, aching or swelling in muscles and joints, nasal congestion, churning stomach or nausea

(with or without cramping), skin rashes, a temporarily irregular heartbeat and/or quickening of the pulse, slower or faster breathing rate, watering eyes, and other signs that waste materials are being released into the bloodstream. If your urine has turned bright yellow (and the intensified color isn't due to excess vitamin supplements), this means that pathogens were killed and are being excreted as waste. Some people find large numbers of parasites or worms in their stool.

Mild toxicity can produce lethargy and headache. Moderate toxicity can cause nausea and vomiting. And severe toxicity can induce rashes or boils, indicating that there's so much extra waste material in the body that the excess is being eliminated through the skin, rather than being processed through other detox pathways (liver, colon, urinary tract). *These reactions indicate that the body is trying to eliminate poisons, rather than a sign of illness per se.*

Detox symptoms can be alleviated or eliminated entirely by drinking mineralized water. However, if your diet, stress levels and lifestyle are encouraging pathogens to proliferate, water alone will not quell the symptoms. You will need to evaluate what is allowing the pathogens to proliferate. Chapter 2 discusses the many environmental conditions that contribute to the recurrence of symptoms.

The part of the microorganism that was devitalized or killed may also play a role in how ill you feel. Some frequencies target a portion of the pathogen's DNA, a protein inside the cell wall. This devitalizes the microorganism and causes it to die slowly, over the course of days or even weeks. Other frequencies target its cell wall and cause it to shatter within minutes. When a harmful microorganism is simply being immobilized, the immune cells of the host's body can scavenge it whole. But if a pathogen's cell wall is broken, waste oozes out and circulate throughout the bloodstream—leaving much more poisonous material, and over a greater area, for the body to eliminate. James Bare's video (on the Internet, and featured in many films about Rife), which shows a paramecium being disemboweled and disintegrated from a plasma wave, is a good illustration of the mess that shattering can create. While dramatic, this manner of killing microorganisms suggests that a less rapid immobilization—while requiring more sessions—may be preferable, as it's easier on the body.

Are you spending enough time with your unit? You may need to approach your condition more aggressively, either by doing sessions more often or allotting more time per frequency.

Rifers typically experience changes during their first session or shortly afterward. Some people sense a shift in the first 10 minutes, but reactions can be delayed. As a general guideline, if you don't feel something within 6 hours after the rife session, you haven't used the correct frequencies. However, everyone is different, so responses will vary.

Be extra careful if you have a sluggish colon, kidneys, liver or lymph system; a history of long-term viral infection such as polio or Epstein-Barr; a chronic condition such as Candida or Lyme; or a potentially life-threatening cancer. Make sure that your organs of elimination can handle the sudden release of toxins into the bloodstream. (See Chapter 3, **Detoxification** for more information.)

Pace yourself according to the requirements of your condition, your intuition, and the advice of your health care provider. If you feel better after your session, you can do another one the next day. If you have an extreme negative reaction, wait until you feel tolerably better before rifeing again. This pertains to most conditions *except severe progressive illnesses like cancer*. If you have cancer, most Rife researchers agree to a protocol of rifeing twice daily to eliminate the spread of abnormal cells and ultimately reverse the condition.

Healing may not be so much
about getting better, as about
letting go of everything
that isn't you—all of the
expectations, all of the beliefs—
and becoming who you are.

—Rachel Naomi Remen, MD
author, lecturer, clinical professor
at University of California
at San Francisco School of Medicine
and Founder-Director,
Institute for the Study of Health and Illness
(born 1938)

Q. Due to a Herxheimer response, I cannot rife as often as I need to. How can I lessen or eliminate these detox reactions?

A. A *Herxheimer* response is a detox response, named after the doctor brothers who first catalogued it. Drink enough water! But—unless you need to drink a lot at one time, due to having exercised, sweated or been in a sauna—don't drink too much at once. Four ounces per half hour is the customary amount of fluid that the kidneys are able to process. Also, make sure you replenish your mineral supply because minerals will be flushed away with the water and the body uses more minerals than usual when it detoxes. See Chapter 3, **Water**, for more information about kinds of water and the desired mineral content of water.

In addition to trace minerals, make sure to obtain adequate amounts of magnesium, potassium, selenium, sodium, and zinc. All of these minerals should be chelated (bound), to another substance to make them

more absorbable (for example, calcium citrate, zinc gluconate, etc.). The major minerals are mostly used to process debris that can cause detox reactions. Brian McInturff has found that if a good quality salt, with all its trace minerals intact, is put into the water, that alone may be enough to supply the minerals necessary to fight the reaction. "I know someone," he says, "who used a frequency device to fight a large malignant tumor and suffered horrible detox reactions. He started using water with ever increasing amounts of natural salt until he found the amount that would quickly relieve him of his detox symptoms."³¹ (**Water** in Chapter 3 discusses the importance of drinking mineralized water daily, even when you aren't sick.)

One of my physician colleagues advises two grams of Vitamin C immediately before a session; 1 teaspoon of baking soda in water immediately after; and for the next 24 hours, as much homemade lemonade as possible, consisting of 2 tablespoons of fresh lemon juice and 2 tablespoons of maple syrup in 8 ounces of water. Sometimes a half teaspoon of cayenne pepper is added. He says that he has not seen a full Herxheimer reaction since suggesting this protocol. For clearing the digestive tract, some people take ¼ teaspoon to 1 teaspoon of Vitamin C powder with plenty of water.

The salt-and-C protocol has become popular among those with Lyme disease, but people with other chronic ailments have also reported benefits. The protocol consists of taking between ¼ and 1 teaspoon each of salt and Vitamin C every hour, 12 times a day, or as often as you can tolerate. Table salt without additives is okay to use, although many people prefer the healthier Celtic sea salt from France. Those who use salt and Vitamin C report greater effectiveness in eliminating pathogens and cleansing symptoms when both salt and Vitamin C are taken together than if only one or the other were used alone. The salt-and-C protocol is also discussed in Chapter 5, in the section on Lyme.

Enzymes also substantially lessen detox reactions, as they are used by lymphocytes (immune cells) to scavenge pathogens and clean up debris. In Germany, Wobenzym® (which contains pancreatic and other enzymes) are the most popular non-prescription anti-inflammatory. In addition to fighting pain, enzymes rebuild body tissues. When taken on an empty stomach, the enzymes go directly into the bloodstream

and are used for repair and immune support rather than the digestion of food. Virtually all enzymes can be taken safely in large amounts. Raw foods, especially fresh squeezed vegetable juices, are excellent sources of not only enzymes but vitamins and minerals.

Many different kinds of herbs and nutritional supplements can cleanse and stimulate a clogged or sluggish digestive tract, the kidneys, or liver. See Chapter 3, **Detoxification** for more information.

Q. If a temporary irregular heartbeat is one possible consequence of microbial die-off, how can this be distinguished from the medical condition known as arrhythmia?

- A.** According to Rife researchers, temporary irregular heartbeat may indicate not only microbial die-off, but also mineral depletion, because the body uses up its nutrient stores in the process of detoxifying from debris. The most basic minerals include magnesium and selenium (important to the heart), as well as potassium, calcium and sodium. It's very important to consume adequate amounts of these minerals, along with water—no matter what your condition, and especially if you have any heart problems.

Temporary arrhythmia may also indicate food allergies. If there's a history of heart trouble in your family, if you believe that there is a problem with your heart, or if you suspect that you have allergies, consult a health professional.

Q. How many frequencies should I use per session?

- A.** Use your judgment and common sense. Most people tackle the symptom picture that has existed the longest, is giving them the most trouble, or poses the greatest threat to their well-being or survival. Increase the number of frequencies until the desired results are achieved.

Q. For how long should each frequency be administered?

- A.** The short answer is usually 3 minutes per frequency, based on the performance of the average machine. However, this is a general guideline. There are many variables that influence the transfer of energy in the body (between cells and within the cells), and govern the body's response to the signal. These include:

- ◆ *The condition of the rifer.* This includes your stamina, body chemistry, diet (amounts of

nutrients and salts consumed), and resiliency and clarity of your detox pathways. You must keep your lymph channels moving, your colon clear, your liver unclogged, and your kidneys optimally functional. Drink plenty of mineralized water to flush the toxin load from your system. Additional detoxification protocols may be required, such as colonics, a liver or kidney cleanse, and sauna therapy (all explored in Chapter 3). Sometimes there's too much toxic debris for your system to handle. If you suspect you're too ill to handle a sudden onslaught of toxic die-off, consult a knowledgeable health professional. If your diet has played a role in supporting the proliferation of harmful microorganisms, change it.

- ◆ *The severity of your condition.* Sometimes an illness is so severe and debilitating that you need to start slow. This is especially true with Lyme. Many researchers advise caution, doing initial sessions of no longer than 15 *seconds* per frequency. For sensitive people, including those with Lyme, 10 minutes a day or less is sufficient until they're stronger.
- ◆ *The urgency of your condition.* When an illness is life-threatening, the need to shorten the rife sessions due to systemic toxicity becomes secondary to the need for an aggressive approach that could save your life. This is especially true with cancer and similar conditions that cause rapid degeneration. With most equipment, people use 20 or 30 minutes per frequency, and sometimes a full hour. (The longer sessions, typically for cancer, are usually divided into two equal sessions with at least a 4-hour break in between.) Please seek supervision from a health practitioner who can help you clear your detoxification pathways and closely monitor your response to the frequencies.
- ◆ *The penetration ability of your machine.* Radiant units typically require less time per frequency than electrode units. The most effective plasma machines suggest 1 to 3 minutes per frequency. For cancer, I'd use much longer periods for difficult conditions like cancer (at least 30 minutes per frequency, and preferably a full hour). Most electrode devices require more time per frequency—at least 3, and up to 10 minutes per frequency, to ensure that the signal saturates the body tissues. The exception to this time frame is the electrode unit equipped with an optional RF carrier wave amplifier (the GB4000), which drives

the signal into the body more deeply and more quickly. Another exception may be the hand-held radiant plasma unit (the BXC Ultra). The Pulsed Technologies radiant plasma units usually require less time as well, due to their spiked waveforms.

- ◆ *The body's resistance and the pathogen's response to the signal.* The body may become resistant to a steady signal that's being emitted for several minutes or more. Similarly, a pathogen can mutate and thus require a slightly different frequency than the original number given. This is a good time to use the gate feature of the machine if it has one. See the discussion on gating earlier in this chapter.
- ◆ *The time of day that you are rifting.* I don't recommend that people rife at night because the body is meant to repair itself during sleep—which is difficult to accomplish if there's extra microbial waste to process. Also, when you're sleeping you can't drink water. If there's too much waste in the bloodstream you can awaken in the morning with an awful headache. However, not everyone agrees with me; some people do very well when they use the machine before bedtime or even during sleep. This circumstance varies between rifers, and even with the same person over time.

Rifing (as with real medicine) is both a science and an art. Royal Rife recommended no more than three minutes per frequency, but this was based on his machine. Today's equipment and increased chemical and microbial loads require longer session times, as well as a greater number of frequencies.

People's responses to the technology are unique. Here's an account from one creative rifer. "Usually, on the basis of what Royal Rife himself recommended, I run frequencies for no more than three minutes. I found that this was sufficient until I had a problem: certain frequencies aggravated the very conditions they were supposed to be helping." Realizing he had nothing to lose, he decided to flood his system. "I turned on the machine and let it run without limiting myself with time," he reported. "I did household chores while the unit was on, so it didn't interfere with what I needed to do. By dealing with my condition in this manner, I got better in a very short time."

This approach can backfire, though: sometimes rifing aggravates conditions. An experimenter ran some frequencies that elicited so much toxic debris that she developed arthritic symptoms. When the symptoms did not improve with the use of arthritis frequencies, she stopped using the equipment, drank

more water, and took some nutritional supplements. Once her pain abated, she resumed rifing. She observed what was happening to her, and then used her intelligence, logic and intuition to formulate and implement a plan that worked for her.

A long enough period of time with any protocol for one person may be too short for another, and vice-versa. *Everyone is different.* Monitor your responses and adjust your protocol accordingly.

Q. How many days should I allow between sessions?

- A. This depends on your situation. Here's a good general guideline: If you experience uncomfortable symptoms of toxic die-off, wait until the reactions abate before beginning your next rife frequency session—especially if your daily functioning is severely impaired or you have a particularly weakened immune response. This may mean rifing every third or fourth day. *However, Rife researchers agree that if you have a condition like cancer, a growing tumor requires a much more aggressive approach.* People with cancer usually rife themselves twice a day, each session consisting of up to 2½ hours. If you have any questions about how fast you should be going, consult a qualified health care practitioner.

Handling detox reactions properly during a serious illness is critical. In some instances, severe detox reactions impede healing. Make sure you have adequate time to recover from the effects of the microbial die-off. For some people this might be a couple of hours; others may need a couple of days. You won't know how much "recovery" time you'll need, especially when first experimenting with sessions. Therefore, allow yourself at least one day where your presence elsewhere isn't essential, so you can see how you feel from the rifing. The more experience you have with this technology, the better you can pace yourself.

Q. After I'm free of symptoms, for how long should I continue the sessions?

- A. For common ailments that aren't too severe, stop when you feel completely well. If you want to make sure that you eliminated all the pathogens, give yourself a few more sessions, perhaps every other day or every few days; there's no definitive rule about this. For stubborn conditions such as Lyme disease or so-called terminal illnesses like cancer or leukemia, most researchers suggest continuing on a similar maintenance program for four months to perhaps a year after all symptoms have disappeared. Use your judgment and experiment; each person is different.

Q. I'm elderly, and very weak from being ill for so long. How should I proceed?

- A.** Anyone old or young who's severely debilitated—from an infection or degenerative condition, acute or chronic—should begin with the organ and tissue support frequencies before dealing with pathogens. You can find them under the alphabetized listing **Regeneration and Healing** in Chapter 5. Although 40,000 Hz is the main or overall “master” healing frequency, there are other frequencies specifically for various organs, glands and even bone repair. Depending on your condition, you may need to use the tissue support for several days or even weeks before you embark on a protocol designed to debilitate pathogens. If you have questions about your suitability for rifeing, consult a holistic medical practitioner who can help you strengthen your system before embarking on a detox or pathogen-killing protocol.

Q. Can I address more than one condition at once, or should I use my device for different conditions on alternate days?

- A.** This depends on why you're using the equipment. If you desire more vitality but aren't severely debilitated (see above question), run a session for both tissue regeneration and pathogen devitalization. Start and end with the regeneration frequencies.

You may also need some detox frequencies. If you find them too stimulating, reduce the number of minutes you use them, the regularity with which you use them, or both.

What if you're dealing with two separate conditions or infections? Try the frequencies for both in one long session. However, if you have Lyme—which is often present with co-infections such as Babesia and Bartonella—you may have to deal with one infection at a time. Begin slowly, due to die-off. Remember to drink plenty of water to flush out the toxins.

Pay attention to how you feel. This will help you further customize your protocol.

Q. Can I rife after eating or drinking?

- A.** Extra water is needed to flush out toxins, so drinking extra fluid before or during sessions is not a liability. Eating, however, is a different matter. Digestion slows the detoxification process. The body generally starts to detoxify as soon as the frequencies are administered. The body can't put its energy into cleansing when it's busy digesting food, so one or the other (or both) may suffer if you rife on a full stomach. Eating and rifeing

can cause nausea from the toxins and killed pathogens that start flooding your system. Therefore, it's optimal not to have a heavy meal in the stomach while rifeing—although you don't want to be distracted with hunger, either, so eat something if you need to. It usually takes about two hours for food to leave the stomach after it has been eaten.

Q. Should I wear special clothing for the sessions?

- A.** With a pad device, the frequencies usually enter the body through the hands and/or bare feet. With a hand-held plasma tube unit, the frequencies are activated when the tubes touch bare skin—generally the hands, but sometimes people slip the tubes inside their shirt or pants. Frequencies from a freestanding plasma light unit can penetrate clothing and go right into the body.

For all types of machines, your clothing should be somewhat loose. This provides direct access to body areas if necessary, as well as maximum comfort during your therapy. Some people with external tumors expose their skin directly to the light. Although the radiation from a plasma light tube does penetrate clothing, it may work better (depending on the equipment) not to be covered with piles of blankets. Make sure the room is a comfortable temperature for you so you can wear light clothing.

Q. Can I wear metal jewelry or glasses?

- A.** Remove all metal jewelry if you're using an electrode unit. Metal conducts electricity. If you're wearing a ring or bracelet and they contact the electrodes, you'll get an uncomfortable shock.

By the way, some people feel more comfortable removing their metal-framed glasses. Health practitioners who do kinesiology (muscle testing) find that metal touching the body—especially if it cuts across the face or the center meridian (“Conception Vessel” in Chinese medicine) that divides the two body halves—has a weakening effect on the system. This is why many people report feeling more energized after they replace their metal eyeglass frames with plastic.

Q. Should there be special lighting, temperature or moisture for either the machine or me?

- A.** For any electronic device, extremes in temperatures and high levels of moisture may adversely affect the equipment. For you, very hot or cold temperatures or lots of moisture won't interfere with the sessions, but it's better if you're comfortable.

The type or degree of lighting shouldn't make a difference to the machine. With radiant plasma, it's the electromagnetic field, and not the illumination, that's doing the job. Use whatever lighting is comfortable.

Q. Can I run my equipment at night?

A. Rifers differ on this point. Generally, I believe that it's better not to rife in the evening for these reasons:

- ◆ *Sleep time is used by the body to repair itself.* If the rife session pushes the body too hard with excessively high levels of immune and detoxification activities, you may not feel rested.
- ◆ *Extra microbial waste (die-off) could irritate the nerves and keep you awake.* Conceivably, the waste could also negatively influence dreaming.
- ◆ *You cannot drink water while you're sleeping.* Seven or eight hours of not being able to flush out your system with water may allow the toxic load in your body to accumulate. Thus, the following morning you may feel awful with a headache, dry mouth, aches and pains, or other symptoms.
- ◆ *Some people report feeling energized by the equipment.* This is probably due to the increase in metabolic processes catalyzed by the frequencies.

That said, some people prefer rifting at night and benefit greatly from it. One woman told me that whenever she runs her plasma unit at night, she sleeps particularly well (despite the extra illumination from the light tube). A physician, who suffered from Lyme and Lyme-induced insomnia, told me that she had the best sleep in years after running 40,000 Hz all night. Bryan Rosner, author of several books on Lyme disease, confirms that many Lyme sufferers prefer rifting at night because it helps them sleep. And a physician recently reported that he and his wife have run their machine all night for nine hours over the course of a year and a half, and they always enjoy restful, uninterrupted sleep with only positive results.

Everyone's different. Experiment to see what works.

Q. With my electrode unit, do I have to feel the current in order to know that the machine is working?

A. The "power control" on a frequency device increases the *amplitude*, or *height of the wave*, thus sending more voltage through the body. *Voltage* is the *force* with which the electrons are being sent, and is experienced as the *intensity of the signal*. Some people, believing

that more is better ("no pain, no gain"), increase the signal intensity so much that they feel pain. But you don't need an excessively strong signal for the frequencies to be effective! In fact, if the signal is strong enough to cause pain, the body will become impervious to the signal. It's sufficient to feel a mild tingling sensation. If you experience pain or discomfort, or if your muscles start to twitch, the intensity is too high. The body may become resistant to the frequencies if the signal hurts or is too forceful.

Any current above 10,000 Hz oscillates so rapidly that most people cannot feel it even if the voltage is high, but frequencies below 10,000 Hz are commonly felt. Turn down the power when you switch from a higher to a lower frequency so you don't jar your system. Even if the amount of voltage remains the same, low frequencies such as 9.6, 20 or even 95 Hz subjectively feel stronger than the higher numbers set at the same intensity. (This phenomenon occurs because the waveform of low frequencies is larger than that of higher frequencies. See Appendix C, "Healing with Electromedicine and Sound Therapies," for more information on waveforms and their characteristics.)

If the frequencies skip around, you may experience an abrupt, sharp, prickly jolt when the machine stops transmitting a high number and suddenly skips to a lower one. Therefore, because of how the body perceives lower vs. higher frequencies, many people program the frequencies sequentially from the smallest number to the highest number. As your program transitions from lower to higher frequencies, you can increase the power gradually if you wish.

Whichever system you use when working with an electrode unit, the current will penetrate your body more deeply and more quickly if you wrap the cylinders in wet paper towels before holding them—or use another "wet" method of applying frequencies, such as wet towels on foot plates, or using alligator clips on the two wires coming from the unit, and attaching them to separate pans of water for the feet.

Q. I have a serious wound that I want to treat. Can I put an electrode directly on it?

A. An open scab or wound contains moisture. If touched by an electrode, the water in the raw flesh will conduct electricity much more efficiently than dry skin, and cause discomfort or pain. Therefore, don't apply electrodes (or electrode patches that stick onto the skin) directly onto a scab or wound. Bandage the wound. Place electrodes on either side of the wound (to focus current where it's most needed) about two inches

from the edge of the wound, and gradually move them closer as long as the sensation is comfortable.

Q. Is it true that the metal in the electrodes can get into the body? If so, what can I do to minimize harm?

- A.** It's true that the body can absorb toxic metals from metal electrodes. Electricity sent through metal causes a phenomenon known as *electrolysis*, wherein electrons break off from the metal and migrate into the surrounding area. For this reason, copper pipe electrodes should not be held directly. Stainless steel electrodes probably emit fewer metal ions during use. Gold plating is sometimes favored, although it's expensive. If you have any type of problem with toxic metal accumulation, cover the metal electrodes according to the instructions immediately below. (You might obtain better results as well.)

Q. I use an electrode unit. How can I ensure that the signal is getting into my body?

- A.** Dr. Richard Loyd discovered that the signal penetrates the body much more quickly (and perhaps more deeply) if the electrodes are surrounded with either (preferably organic and undyed) cotton fabric or (preferably unbleached) paper towels that are saturated with salt water. Dr. Loyd's clients report a faster elimination of symptoms if they hold electrodes (or place their feet on electrodes) that are wrapped in wet paper towels or cloth. As water is a great conductor of current, you'll have to lower the power setting of the unit.

Q. Can I use WiFi while I'm using the equipment?

- A.** With WiFi technology, electronic devices—such as a laptop, “smart” meter, iPhone or eBook reader—can connect wirelessly to the Internet, via radio waves in the range of 2.4 GHz. (As of this writing, there are plans to use even higher signals of 5 GHz and more.) Rife machines don't utilize those high ranges, so the WiFi shouldn't interfere unless a particular frequency resonates in those higher harmonics (which is doubtful). However, interference is a minor issue compared to the extreme danger of WiFi radiation! I strongly advise against using it.

Today, almost everyone uses WiFi; so even if you don't have a wireless network in your home, you're probably being bombarded by a 2.4 GHz (or higher) signal—from your neighbors, or in a public space such as a coffeehouse or library. Nevertheless, you can minimize or entirely eliminate the effects of this

dangerous radiation. For details, see the Chapter 1 Insert, pages 11–16, “Electromagnetic Fields and Your Health.”

Q. Can I do other therapies along with the rife sessions?

- A.** I can't think of any holistic therapy—acupuncture, bodywork, colonics, herbs, homeopathy, meditation, nutritional supplementation, ozone therapy, saunas, etc.—that would be incompatible with rifting. If you have any questions about the suitability of a protocol, consult a holistic health care provider. Chapter 3 contains detailed information on modalities that can complement your frequency sessions.

Q. Do I need a special diet or nutritional support while rifting?

- A.** Most people are missing vital nutrients because they eat the wrong things (and often, too much of the wrong things). Refined carbohydrates, grains, blood sugar-altering sweets, and junk loaded with chemicals, preservatives, and dyes create illness rather than wellness. See Chapter 3, **Food** for information on real food versus fake food, and the different types of food plans that people can use when they're ill.

When rifting, it's best for the body to focus on eliminating toxic materials instead of digesting food. As some people respond to the presence of microbial wastes with nausea and even vomiting (a classic detox response), it makes obvious sense to not have a stomach full of food. Two hours is the average time it takes for the stomach to become empty. However, don't wait too long after eating to do your rifting, either, because you might become overly hungry mid-session.

I have already mentioned the need for extra water and minerals. Briefly, rifting requires enough water to flush out the microbial poisons. The amount of water needed depends on how much high-water-content food is eaten; but an overall recommendation for the average adult is about 2 quarts per day. However, drinking that much water may flush out the water-soluble B vitamins and Vitamin C, along with minerals (especially potassium, sodium, calcium and magnesium). Therefore, you'll need to replenish them. Consult a knowledgeable health practitioner if you have questions about your requirements.

Nutrient needs increase during illness, with or without rifting. See Chapter 3, **Nutritional Supplements**.

Q. I'm doing many complementary therapies in addition to rife sessions. How do I know which protocol is helping me?

- A. Unless you have access to sophisticated electromedical diagnostic equipment or are being monitored by a holistic health practitioner, you may not know which therapy among several is the most helpful.

It's reasonable to want to eliminate repetitious or unnecessary protocols, especially if they're costly and time-consuming. However, there are many facets to health. Several approaches are usually needed, as they all provide complementary support. Understanding the *functions* of the different therapies will help you decide which ones you need and which ones you don't need at a given time. Generally, however, major lifestyle changes are mandatory. These include proper diet and exercise, suitable sleep, avoidance of chemicals and electrosmog, and psychological stress reduction.

Q. My partner is ill, and uses a radiant plasma machine daily. Will my children or I be negatively affected if we're in the same room?

- A. Many of the frequencies are for the Mortal Oscillatory Rate (MOR) of pathogens, while others solely enhance cellular function. Still other frequencies appear to both negatively affect pathogens and benefit body tissues.

If you're harboring a pathogen whose MOR is being transmitted by a nearby rife unit, that pathogen will be affected by the machine's field. Therefore, you may experience a die-off reaction (within 24 hours): thirst, nausea, fatigue, weakness, or another indication that a detox process is occurring. If you're *not* harboring pathogens that correspond to the MOR being emitted, then being near the device will simply have no effect and you won't experience detox reactions.

On the other hand, frequencies that help normalize or add energy to body tissue may have an effect—albeit a beneficial one. You may experience increased energy or an augmented feeling of well-being.

If you're using radiant plasma equipment and there are other people or animals in the room who should not be rifed, keep them out of the room. The checklist of candidates for rifing is at the very beginning of this chapter. If you think that others could benefit from the frequencies, even as “incidental recipients,” treat them as you would any other rifer. Monitor their responses and be prepared for possible detox reactions. Make sure they drink enough water to handle the effects of microbial die-off, should they experience this. And ask them if they feel better from the rifing.

Q. Rifing with my radiant plasma device helped me eliminate a cold. My daughter, who also had a cold, said that she felt the signal when she was in the next room. She's no longer sick. Can the frequencies really penetrate a wall?

- A. Some radiant plasma units are powerful enough to send their signals through walls. Even though the gases in the tube light up to produce the frequencies, it's the resulting *electromagnetic field* (what some rifers call the “field effect”) that conveys the healing, not the luminescence from the light when the tube is on.

The human body transmits and receives many different kinds of EM fields. Years ago, when I had a plasma unit equipped with two hand-held glass cylinders, several people reported feeling its energy about 8 feet across the room as soon as I activated the tubes by picking them up. On other occasions, a very sensitive woman could tell as soon as she entered the room that a (different) plasma device had recently been turned on. Sometimes people can feel signals from rife machines through walls or sense “after-images” from lingering radiation, even over longer distances.

Q. How do I use the stimulating and normalizing frequencies?

- A. There's a difference between frequencies (or substances) that normalize or regulate, and those that stimulate. *Normalizing* or *regulating* an organ or gland calms it if it's overexerting, and gives it more energy if it's lethargic. However, *stimulating* an organ or gland increases its output of activity. Whereas depleted body parts may benefit from carefully applied stimulation, organs or glands that are already overworking should not be forced into more activity. The few frequencies that appear to be stimulating to various organs or glands (as opposed to simply normalizing) may have an unwanted effect on you if you do not want that particular body part to be stimulated.

As always, pay attention to how you feel and stop rifing if it's not helping your overall wellness.

Q. Does it matter which direction the light tube is facing?

- A. People can be affected by the plasma tube's energy field regardless of the direction in which the tube is facing. However, you'll probably get a stronger effect with a directional light. The tube on most units has a piece of metal across one side that acts as a reflector. Face the portion of the light toward you that isn't covered by the metal.

Q. What if I don't get any results from the frequency sessions?

- A. See the Insert at the end of this chapter, "A Short Course on How to Give Yourself a Rife Session." It suggests what to do if you're not getting results.

Q. I was getting very good results when rifting for a chronic condition until I took a two-week break. Now the same frequencies don't seem to be working. Why?

- A. There are two possibilities. One, you may have given the pathogens a chance to become resistant to the frequencies. The few remaining hardy stragglers could have changed their rate of oscillation so that frequencies which used to work no longer match the current MOR of the pathogens in your system. Two, the rifting did such a good job at reducing the microbial load that you're no longer infected by the pathogens.

If your machine has the capability, run a converge or a sweep to address possible mutations. Also try different frequencies. This situation illustrates the importance—especially for those with chronic, difficult or life-threatening conditions—of doing Rife Therapy consistently for longer periods of time.

Q. Can the frequencies in *The Rife Handbook* be converted into radionics rates? If not, what's the difference between rifting and radionics?

- A. *Radionics* is a healing modality characterized chiefly by intent, and is sent over a short or long distance. Anything can be sent radionically: essential oils, herbs, vitamins, minerals, good wishes, bad wishes, a desire for healing or harm, or frequencies emitted by a rife machine. Radionics is one form of non-local, *subspace* healing (see Chapter 6). Quantum physicists refer to connection at a distance as *quantum entanglement*. In quantum experiments, subatomic particles that are connected remain connected, even when separated by thousands of miles. An act performed on one particle affects the other. This is true in the macrocosmic world as well, with biological materials. In one study, white blood cells were taken from a subject and put into a Petri dish. The subject was attached to electrodes and shown an upsetting film. He felt anxiety, which the electrodes recorded. Miles away, in another laboratory, his white blood cells registered the same electrical activity at the same time.

A radionics *machine* is designed to send information in the form of energy to someone else. The person can be in the same room or across the ocean. The radionics

practitioner places a client's photo, saliva sample, lock of hair, a speck of blood, or some other representation (called a "witness") in a chamber of the radionics machine. A vitamin, mineral, herb, etc., is placed in the machine with the witness. Then the energy of the healing substance is sent to the person via subspace.

Radionics machines work on a completely different principle than rife units. They may use numbers called "rates," but these rates are not the same as frequencies that are measured in hertz or multiples of hertz. Rates are arbitrarily assigned numbers—reference points for the equipment operator—and each radionics machine manufacturer uses different rates. The operator's skill determines the rates (and success of the sessions).

On the other hand, the frequencies used during rifting *can* be used radionically. Put another way, Rife Therapy can be sent subspace, and rife machines can be used radionically to convey frequencies.

Here is a true story. Several years ago, I was contacted by an avid rifer whom I will call Jane. Jane had been giving long distance rife sessions to a friend with the flu. She wrote his name on a piece of paper, pinned the paper onto her shirt, and held the electrodes of a rife machine. Essentially, she was giving herself the same session she would have given him if he were physically present. The problem is, by helping him in this manner Jane was not only assuming the identity of her friend, she was also taking on his condition! Jane's friend got well, but she was coughing and sneezing and even had a fever—the very symptoms that she had eliminated in him.

Factors Influencing Us as Empaths

- ◆ **Receiving.** Our sensitivity as receivers will factor into how much energy we pick up.
- ◆ **Sending.** Some people transmit their energy more strongly than others, and the depth of the emotions that they are experiencing will also turn up the volume that they are sending out.
- ◆ **Awareness.** The unaware person may be just as sensitive as the aware person. The latter will understand why they have mood swings; the former will not.
- ◆ **Emotional Connection.** The stronger the emotional connection is, the less important the physical proximity is.
- ◆ **Physical Proximity.** Neighbors and strangers will influence us based on physical proximity. This is true for the people living in our neighborhood and the strangers we brush up against in the shopping mall.

—Trevor N. Lewis and Abbigayle McKinney
excerpted from *Thriving as an Empath*, 2016

Jane wanted to know how she could avoid becoming ill while giving surrogate sessions to her friends and family. I told her that she did not need to pin the names of other people to her own body. Nor did she need to even be in the same room while the frequency device was operating, especially because she already had such a powerful intent. I advised her to place either her friends' photos, or papers with their names on them, on the footplates attached to the actively running unit. Or, she could place the photos or names next to the plasma tube while it was running; it didn't matter.

At first Jane sat right next to the machine when she gave sessions. Once she was satisfied that her friends were receiving the healing, she allowed herself to do other things while being in the same room as the machine. Soon she felt comfortable switching on the machine and letting the frequency programs run while she left the room or even the building. Obviously, this woman felt very connected to her friends.

Three fascinating books that explain the physics of intention and various energetic therapies, along with lots of cutting-edge scientific data and the history of the scientists, are *The Secret Life of Plants*, *The Field*, and *Psychic Discoveries Behind the Iron Curtain*.

Frequency Selection and Pathogen Response

Q. How do the frequencies work?

- A. The frequencies harm pathogens, benefit the body, or both. First I'll discuss the effects on pathogens.

A popular film from James Bare (which is often included in documentaries on Rife and shown on many Internet sites) depicts a protozoan through a microscope as it's being exposed to a Bare-Rife machine emitting a 1150 Hz signal with an RF carrier wave. In fewer than 15 seconds, a portion of the protozoan's membrane is punctured and its guts explode. However, the shattering of a microorganism, although visually dramatic and compelling, doesn't actually explain how frequencies disable it. Simply put, the frequency equipment matches wavelengths, or *resonance*, with the pathogen. This transfers electrons (energy) to the microbial cell wall. The increase in energy disturbs the pathogen's electrical charge, *changing its shape and pattern*—its structural integrity. This causes *electroporation*, or a bursting of the pathogen's outer layer, which is why its innards spill out. When a pathogen's structural integrity is compromised, it destabilizes rather than shatters.

The disruption of the electrical charge on or inside the microorganism can:

- ◆ Disable certain proteins.
- ◆ Devitalize certain enzymes.
- ◆ Disrupt the pathogen's ability to metabolize.
- ◆ Disrupt the pathogen's ability to replicate.
- ◆ Disrupt the pathogen's ability to reproduce.
- ◆ Disrupt the pathogen's ability to recombine.

Independent of killing or disabling noxious microorganisms, some frequencies benefit the body because they normalize or stimulate various organs, glands, tissues or body functions by:

- ◆ Beneficially reorganizing the RNA/DNA.
- ◆ Making the flow of ions across cell membranes more efficient.
- ◆ Increasing the number of stem cells (which speeds healing).
- ◆ Focusing the immune cells on a pathogen that was not previously recognized as a threat.

The recently deceased Dr. Robert P. Stafford, who had worked with Royal Rife, John Marsh and John Crane, believed that the frequencies stimulated the adrenal glands and may have had other immune-enhancing properties. Perhaps the signals cause or speed the leakage of unhealthy cells, thus encouraging their removal. (Normally, when cells start to die from old age, infection or disrepair, fluid leaks out of their membrane. Immune cells recognize this leakage as a message to scavenge what is now waste.) *Blast It!* author Carol Nichols, drawing on many years of experience with pad devices, writes that electrode units in particular "have a unique ability to stimulate atrophied muscle tissue, increase circulation of blood and lymph, stimulate regeneration of damaged nerve pathways, and rectify low tissue conductivity."³² Peter Walker, who reports on rife technology in Europe and also highlights pad devices (which are extensively used by European doctors), writes, "Pad devices have a positive effect because they can tonify the body and help improve its energy levels. Plasma units are great for killing parasites."³³ And the late engineer Aubrey Scoon believed that "magnetic and electric fields are inducing electrochemical changes in cell membranes which affect electrochemical pumping mechanisms."³⁴

Any electromedical device that causes the electrical charge of a cell to improve will assist with healing. Cells and other structures that are too weak or diseased to contain the charge that a healthy cell can hold, will

lose their structural integrity and become part of the body's waste load (as they should). And pathogens that absorb too much energy (more than they can hold) will undergo a similar fate. A healthy body whose cells have the proper resistance, capacitance, and inductance—simply put, are functioning correctly and have the proper electromagnetic signature—will be more impervious to pathogens, and will perform their jobs more efficiently.

At some point, you may hear researchers talk about the *rife effect*. This effect can be any or all of the effects just described.

Q. How were the frequencies in *The Rife Handbook* calculated?

A. The frequencies are from several sources. These include:

- ◆ *Royal Rife's Original Lab Notes*. Fourteen frequencies listed in the Frequency Directory (Chapter 5) are believed to have been used with Royal Rife's #4 machine. These frequencies correspond to some common microorganisms such as *Bacillus anthracis*, *Clostridium tetani*, *E. coli*, *Salmonella typhi*, *Staphylococcus*, and *Streptococcus*.
- ◆ *In Vitro Studies*. Researchers view pathogens on microscope slides or Petri dishes to see how they respond to various frequencies. For example, in experiments in Romania supervised by Jimmie Holman and Paul Dorneanu, pathogens were cultured, exposed to different frequencies, allowed to incubate, and then meticulously counted so the rates of slowed or stopped growth could be calculated. For experiments on living pathogens, researchers use either a dark field microscope that reveals larger pathogens such as bacteria, or the higher powered Ergonom that can reveal tiny viruses (see below).
- ◆ *Live Blood Analysis*. This is done with a *dark field microscope*, which uses a glass slide immersed in oil to better illuminate the features of a living specimen. During a live blood analysis, a specially trained microscopist examines freshly drawn, living blood before and after a subject has been exposed to various frequencies to see which ones were effective. The blood is examined for pathogens and debris. The shape, motility, functioning, and clustering (or not) of the red and white blood cells are also examined. For viewing blood, a dark field microscope doesn't need to be as high-resolution as a Rife or Ergonom microscope.
- ◆ *Muscle Testing or Applied Kinesiology*. This method was developed in 1964 by Michigan chiropractor George Goodheart. The practitioner pushes or pulls on parts of the body—usually fingers or an extended arm—and, based on the muscular weakness or strength, determines the client's allergies and conditions. Later practitioners include John Thie (author of *Touch for Health*), and John Diamond (author of *Your Body Doesn't Lie*).
Related modalities include Touch for Health and Contact Reflex Analysis (CRA). The tester exerts pressure on reflex points in the body to obtain information. All these methods have been used to determine which frequencies the subject needs. This method is related to dowsing, below.
- ◆ *Dowsing*. This method uses a *dowsing rod*, which is a stick of metal or wood, or a *pendulum*, which is a weighted ball or other object hanging from a cord or chain. These low-tech instruments amplify the electrical signals in the nervous system and externalize them into muscle movements, similar to movements that are detectable through Applied Kinesiology or muscle testing. Dowsing can be performed by both the subject and an experienced tester who links to the subject without necessarily physically being in the same location. With dowsing, unlike Applied Kinesiology, the subject uses an external object instead of the body to detect the responses to a frequency or substance. Some people find dowsing very effective to find frequencies. Even though dowsing is not respected in some circles, it actually has a scientific basis. See Sidebar on page 576, "Dowsing and Muscle Testing."

Prominent rifers who have found frequencies include:

- ◆ *Richard Loyd, PhD*. Working in a clinical capacity, Dr. Loyd uses muscle testing to find frequencies for a great number of conditions. He further refines these frequencies to determine which ones work best, relying on reports from his clients and occasionally their lab tests. These numbers, along with listings for new conditions, are offered and always updated at royalrife.com.
- ◆ *Hulda Clark, PhD*. The late Dr. Clark used a testing device that she developed called a *synchrometer*. Many rifers use her frequencies (which are also listed in this *Handbook*). You can find plans to build your own synchrometer, inexpensively, at synchrometer.com.

Dowsing and Muscle Testing

You turn on the machine and select a frequency. "Is this a good frequency or not?" you wonder. One way is to see how you feel after running it. But if you dowse or muscle test, that's another way.

You can use a dowsing tool called a Bio Tensor Adjustable Rod. You can also use your fingers or arm or a pendulum. The frequency of whatever you're testing will strengthen or weaken your electromagnetic energy field.

You can train yourself to learn. Basically keep an open mind to find out, "Is this good or bad? What's this frequency going to do?" It's best to ask questions that can be answered with a "yes" or "no." I don't ask weird questions like, "Am I going to have a baby boy or a girl." I just find out if there's a positive or negative response to a given field.

To have a baseline comparison, take something you know isn't good for you, like aspartame or sugar, and hold it next to your body. Your response should be negative: your muscles will be weak. Then find something that's good for you, and your response should be positive: your muscles will be strong. Now you know your negative and your positive.

This is how I conducted my Multiple Sclerosis research from 1999–2000. The program was designed to facilitate nutrient uptake at the cellular level. Which nutrients and frequencies should I choose? I gave the subjects nutrients based on lab work that identified deficiencies, but the frequencies for neurological function were chosen through dowsing. Everyone got better.

How does it work? Every substance in the universe has its own resonant frequency. Your body has a whole catalogue of frequencies it's transmitting and receiving. When you put a substance in proximity to your body, there's going to be an interaction. It's called a "destructive interference field" or a "constructive interference field." Your nervous system is a sensor. Your fine motor control is unconsciously controlled by your brain stem and spinal cord. When you know how to properly dowse or muscle test, you'll get a clear response if you get your conscious mind out of the way. You'll get a positive or a negative. You're using your own body as a sensing tool to evaluate whether or not this particular frequency is healthy or good for me—and also, how long should I be running it.

This is why dowsing and muscle testing have a scientific validity.

— Steve Haltiwanger, MD, CCN

adapted and excerpted from a presentation at the
Rife Frequency Therapy, Electromedicine,
and Holistic Health conference
October 8–9, 2016 in Phoenix, Arizona
(DVDs available at nenahsylvr.com)

- ◆ *Jeff Sutherland, PhD.* After extensive experience with the F-Scan (which detects frequencies with which a subject resonates), software inventor and National Institutes of Health grantee Jeff Sutherland developed a method to find frequencies for specific organisms and various mutated cells with a sensitive dowsing instrument called the Cameron Aurameter. Cross-checking the frequencies obtained from the Aurameter with those obtained from the more mechanically objective F-Scan, he combined these two approaches into a single diagnostic tool. He offers frequencies for many conditions at frequencyfoundation.com.

In Chapter 5 of this book I include only a handful of Dr. Sutherland's frequencies that are already in public domain. For a much more extensive repertoire of frequencies that you can purchase, see his website.

- ◆ *John Garvey, LAc. and Marty Monahan, DC, NMD.* Acupuncturist, homeopath and rifer John Garvey calculated some very effective frequencies which he publicly released in 1993. Dr. Garvey's frequencies are in this *Handbook* (and also in Brian McInturff's Consolidated Annotated Frequency List or CAFL, newer versions of which are sold online). Chiropractor and naturopath Dr. Marty Monahan, partnered with Garvey before the latter retired, provided additional frequencies that he has tested in his practice in Florida, US.
- ◆ *Jimmie Holman and Paul Dorneanu of Pulsed Technologies.* *In vitro* studies; see page 575. Their studies are scientifically verifiable.
- ◆ *Charlene Boehm.* Ms. Boehm's method of determining frequencies is unique as well as scientifically verifiable. As a musician and mathematician, it was natural for Char Boehm to perceive numerical patterns. So she applied her keen scientific mind to develop a complex mathematical formula that calculates a pathogen's MOR. In a paper entitled "A Look At the Frequencies of Rife-related Plasma Emission Devices," Boehm describes her thought processes and what led to her discovery. "What exactly might be the destructive mechanism that is affecting each organism?" she initially asked herself.

Is it a resonance related to its full size, or perhaps that of the nucleus, mitochondria [tiny fuel-burning units inside a cell], or capsid [the outer protein shell of a virus particle]? Is it a correlation with some type of biochemical resonance? Why does each organism seem to need a specific frequency?

Could the phenomenon be related to its DNA, and if so, what is the resonance relationship? These questions and more have kept folks that use or explore Rife-related technologies awake into the wee hours of the morning on many occasions, and have been the focus of endless animated discussions.³⁵

Boehm knew that the physical length of any object correlates to its wavelength: “For instance, a person’s height has its own resonant wavelength and resultant frequency.” Therefore, she wondered, “Is it possible that an organism’s entire DNA genome [genetic material] could also possess a resonant wavelength and frequency related to its total length?” After examining the published analyses of DNA structure from biologists, she worked out a formula for calculating the wavelength of a microorganism. Then she utilized a common physics equation to determine the frequency. “It is interesting to note,” she writes, “that this frequency falls at the high end of the infrared section of the electromagnetic spectrum (near visible light), and in the general area of the spectrum that Royal Rife had under consideration in his microscopic work.”³⁶

To obtain the numbers for her calculations, Boehm uses a government database that contains measurements of an entire pathogen or portions of its structure (a modern convenience not available to Royal Rife). Her final step is to convert these very high figures to workable numbers that accommodate the permeability of both human and animal body tissues, and can be transmitted by modern frequency equipment. It’s not a coincidence that Boehm’s numbers for the pathogens that Royal Rife was working on very closely correlate with the frequencies in Rife’s original lab notes! Sometimes her frequencies exactly match those of Rife and modern researchers; other times, they’re within one to five Hz. These differences seem negligible.

Boehm was awarded a patent by the US Patent Office (#7,280,874) for her DNA frequency method, formally titled “Methods for determining therapeutic resonant frequencies,” on October 9, 2007. Her work holds enormous promise for the

successful use of rife technology as newer and more dangerous microbes continue to emerge and we need to find the debilitating frequencies quickly. For a very nominal fee, she provides customized frequencies on her website, dnafrequencies.com. Serious researchers have found Boehm’s frequencies to be highly effective, and most rifers who use this service report being very pleased with the results.

Please note: since the last edition of *The Rife Handbook* was published, Ms. Boehm formally established her frequency creation service as a

business. Out of respect for her patented intellectual property, I have not included any of her data that was not in the public domain. However, her work is invaluable. The frequencies in this *Handbook* will not apply to everyone. If that’s the case for you, I highly recommend Boehm’s database, which has an excellent chance of succeeding—providing you know the exact microorganism you’re dealing with and your rife machine is accurate.

Knowing others is intelligence;
knowing yourself
is true wisdom.
Mastering others is strength;
mastering yourself
is true power.

—Lao-Tzu

Chinese philosopher and writer,
the founder of Taoism, and
attributed author of *Tao Te Ching*
(died 531 BCE)

Q. I have a diagnosis from my doctor. How do I know which frequencies to use?

A. The beginning of Chapter 5 explains how to use the Frequency Directory. However, be aware that although many people are satisfied with the results they get from the frequencies in this book, additional frequencies may be needed. If you have a diagnosis of a specific pathogen, the best site for custom frequencies is dnafrequencies.com. For a very nominal sum, you can get a customized program of frequencies that are mathematically calculated using the measurements of portions of the pathogen’s own DNA.

Q. What if I don’t have a diagnosis, and don’t know which pathogens are involved in my condition?

A. These guidelines will help you decide which frequencies to use (whether they’re from this *Handbook* or another source). During and after your session, don’t forget to monitor your responses so you can determine which frequencies offered the greatest relief.

- ◆ *Diagnosis that is pathogen-specific.* In many cases, it would be best to have the name of the particular harmful microbe that’s infecting you. Simply look up the frequency for it, as in *Babesia*, for example.

You Know More Than You Think

There's a reason the gut, or belly, is called "the second brain." Over 90% of all neurotransmitters—which we consider "brain" chemicals—reside in the gut and not the brain. This simple but powerful technique will help you (re)connect to knowledge you already possess.

Neutral. Close your eyes. How do your muscles feel? Relaxed or tight? Pay attention to your breathing. Is it fast or slow, noisy or quiet, deep or shallow, even or erratic? Feel your gut. Is it tight or relaxed, tense or easygoing? Imagine what your energy field is like. Do you sense it as dark or bright, dense and compressed or light and airy? This gives us a baseline before we move on.

Negative. Keep your eyes closed. Now think of a person or situation that made you feel really bad, uncomfortable, wrong. Don't worry, we won't stay here; this is to get a sense of how you feel in a negative circumstance. How do your muscles feel? Relaxed or tight? Pay attention to your breathing. Is it fast or slow, noisy or quiet, deep or shallow, even or erratic? Feel your gut. Is it tight or relaxed, tense or easygoing? Imagine what your energy field is like. Do you sense it as dark or bright, dense and compressed or light and airy?

Positive. Keep your eyes closed. Now think of a person or situation that made you feel really good, comfortable, right. How do your muscles feel? Relaxed or tight? Pay attention to your breathing. Is it fast or slow, noisy or quiet, deep or shallow, even or erratic? Feel your gut. Is it tight or relaxed, tense or easygoing? Imagine what your energy field feels like. Do you sense it as dark or bright, dense and compressed or light and airy?

Back to Ordinary Reality. Now shift your attention back to where you're seated. When you're ready, open your eyes. You have just reminded yourself that there are distinct differences between when you're in a neutral state, when you encounter something that's not right for you and makes you feel bad, and when you encounter something that *is* right for you and makes you feel good.

Your body is a measuring tool, a way of telling you when something is right and when it's not. You can use these kinesthetic, visual and auditory signals as clues or guidelines to help you figure out which frequencies to use. You can also use this technique to help you with any other decision in your life. These are your gut feelings. You can learn to trust them more.

—Nenah Sylver, PhD

adapted and excerpted from a presentation at the
Rife Frequency Therapy, Electromedicine,
and Holistic Health conference
October 8–9, 2016 in Phoenix, Arizona
(DVDs available at nenahsylver.com)

- ◆ *The name of a disease or illness.* Often, the name of a disease is a slight variation of the name of the pathogen. For example, Babesiosis is caused by the parasite *Babesia*. Borreliosis is caused by the spirochete bacterium *Borrelia*, and so on.
- ◆ *Diagnosis of an illness, pathogen unnamed.* If your doctor says that you have amoebic dysentery, you can rife for amoebic dysentery or the protozoa *Entamoeba histolytica*, which causes dysentery. Chapter 5 contains all this information, cross-referenced. It makes no difference which listing you choose because the frequencies are for the same problem.
- ◆ *General symptoms without a diagnosis, usually affecting specific parts or areas of the body.* Choose the body parts or systems that are manifesting the most severe or uncomfortable symptoms: respiratory tract, gastrointestinal tract, and so on. Chapter 5 contains frequency listings according to which body parts or systems are affected. As you read each entry associated with that body part or system, you will learn to detect what's ailing you.

Be aware that most diagnoses do not indicate the *cause* of the ailment. For example, multiple sclerosis can be caused or exacerbated by a particular pathogen and its wastes, chemical toxins, or heavy metals. A migraine can be caused by an allergy, toxified liver, or *Candida albicans*. You'll have more success with frequency selection if you consult Chapter 5 to learn a bit about how the body works, and how a pathogen can cause different symptoms in different areas of the body.

Some common frequencies that are often implicated in a majority of symptom pictures include 464, 660, 690, 727.5, 776, 787, 802, 880, 1550, 1552, 2008, 2127.5, and 2489. Other important frequencies are 20, 72, 95, 125, 444, 600, 625, 650, 784, 832, and 1865. If your machine has a sweep function (explained earlier in this chapter), try a sweep from 420 Hz to 482 Hz.

If you feel too ill to troubleshoot, if you find it too inconvenient or time-consuming, or if you have a condition such as cancer that requires absolute precision, consider using an electrode unit called the F-Scan. The F-Scan sends a series of signals into the body. Then, based on the body's response of resonance, the device displays on a screen those frequencies that are *hits*. Then it delivers those frequencies. The F-Scan can transmit frequencies in the high KHz (kilohertz) range, which is optimal for cancer and some parasitic infections. Due to the high range output, the current is felt very little, if at all.

The end of this chapter has a guide to giving yourself a rife session. Also see Chapter 5, the Frequency Directory, which contains an extensive alphabetized listing of pathogens, diseases and symptom pictures.

One more thing. By enhancing your knowledge and ability to think holistically, to a great extent you can be your own diagnostician and healer. Some people feel uneasy about being proactive about their own health. They think, “But my doctor is the expert. I’m just a layperson. How can I possibly know what to do?” While I respect the grueling program and years of study required of physicians, I’m also aware of the limitations of that training. Most doctors are taught to focus on pathology rather than on optimal function. They are given illness training, not wellness training. As a result, they often fail to comprehend the body as a functional organism of interdependent systems. In these pages, you can acquire practical knowledge and an understanding of relationships and concepts that many conventionally trained doctors lack. So don’t devalue what you already know, and be open to learning more. You may have more choices of treatment modalities than you’ve been led to believe.

Everything you’ll
ever need to know
is within you; the
secrets of the universe
are imprinted on the
cells of your body.

—Dan Millman
American author
(born 1946)

Q. Is muscle testing a valid way to figure out which frequencies will work for me?

- A. With a little training, muscle testing (also called Applied Kinesiology) can accurately determine which frequencies the body needs. Many people who use this procedure correctly are chiropractors and other health practitioners. However, laypersons and those who specialize in the art of dowsing can also be successful. The trick is to quiet the conscious mind—full of doubting, busy chatter—so that the neurological responses to the electromagnetic information can be detected. (For more information see, on page 575, the question “How were the frequencies in *The Rife Handbook* calculated?” and, on page 576, the Sidebar “Dowsing and Muscle Testing.”) Alternatively, you can tune into your gut; see Sidebar, “You Know More Than You Think.”

Be aware that there are some variables—including dehydration, reversed polarity, and a lack of objectivity on the part of the tester—that can make it challenging to master the technique. In the aforementioned pages, some books are suggested that will help you learn.

There’s another, related frequency checking method you can try, although it can’t be done alone by the subject and requires a tester. It’s based on an objective physiological response called the Vascular Autonomic Signal (VAS), discovered by medical doctor Paul Nogier in 1966. The method involves the circulatory (radial) pulse on the wrist, which can be found with a little practice. The tester holds the subject’s wrist while the subject is exposed to a frequency. When a frequency is emitted that the body may need, a sudden change occurs in the pulse. The change in the pulse can feel like excitation (jumping or throbbing), or weakening (slower, less obvious). This VAS test may be the most practical for those without access to either custom designed frequency programs or a powerful microscope that can show changes in the blood before and after the administration of frequencies. This method may also be preferred by people who find muscle testing difficult.

There’s always the “try this and see how you feel” method. While this method is admittedly limited, some people have reported good results by simply guessing or using their intuition.

Q. Instead of individual frequencies, why can’t we use all of them in succession—especially if we don’t know which ones are needed?

- A. People have differing opinions about this general approach. Some rifers want to ensure that all possible pathogenic mutations are covered, so they use all the frequencies they can think of. Other rifers feel that this method isn’t efficient, and not necessarily even the most effective. Believing that the body will become overwhelmed, they prefer a more targeted approach. I have heard positive reports about “all frequencies” units, so let your own unique response guide you.

Q. Why are different frequencies sometimes listed for the same condition? And why are the same frequencies often given for two different pathogens?

- A. Assuming that the numbers are correct, when the listings contradict each other by a few Hz, this may reflect differences between the human hosts. Body moisture, tissue density, terrain (biochemical composition and pH), temperature variations, and even different geographical locations can create varied strains of the same pathogen, thus causing changes

in its MOR. Also, a number might be the resonant frequency of the entire microorganism, while another number might relate to a specific cellular part. Still another frequency might be mathematically related to the fundamental MOR (see the next column).

Sometimes the numbers are for unidentified secondary infections. Or, the frequencies stimulate the host's immune response rather than debilitate pathogens. And sometimes, the numbers vary greatly because they are experimental and Rife researchers aren't yet sure which ones are the most effective. As some frequencies are more effective in disabling pathogens than others, you may want to try all of them. Or, you may want to learn dowsing or muscle testing so you can correctly choose only those numbers that will benefit you.

Q. Do higher frequencies work better than lower frequencies?

- A. Frequencies in the lower ranges are quite effective for many conditions. However, for cancer, it may be preferable with most equipment to use numbers in the higher MHz (megahertz) range. If your machine can't go that high, you can keep dividing by 2. See next column.

Q. What are “audio range” frequencies?

- A. The phrase *audio range*, commonly used by engineers, can be confusing. Theoretically, every frequency on the electromagnetic spectrum corresponds to a sound—if we could hear it. A so-called audio frequency is simply a wavelength that is in the range of human hearing if the frequency were translated into a tone.

The human ear can hear tones from about 20 Hz to 20,000 Hz (which is 20 KHz, or kilohertz). The lowest pedal notes of a pipe organ range from 16 to 32 Hz. Bells and cymbals are in a relatively high range of 16,000 Hz.

Some devices can emit frequencies over 20,000 Hz and even into the millions of Hz. This is beyond the range of human hearing, beyond the audio range.

Q. My unit goes up to only 20,000 Hz. But my condition requires many frequencies that are over 60,000 Hz. What should I do?

- A. Set your unit for a square wave. Take the original MOR of a pathogen—the high number—and divide it by 2. If that number isn't low enough for your unit, again divide it by 2. Keep dividing it by 2 until the resulting number lies within the range of your machine. For example:

- ◆ The original frequency is 140,000 Hz.
- ◆ Divide 140,000 by 2, which lowers it to 70,000.
- ◆ Divide 70,000 by 2, which lowers it to 35,000.
- ◆ Divide 35,000 by 2, which lowers it to 17,500. This is in your machine's range: 17,500 Hz.

This formula is based on *subharmonics* of the fundamental frequency. To understand this, the best analogy is notes on a piano. There is a note A that vibrates at 55 Hz. The octave above that vibrates at 110 Hz. The octave above that is 220 Hz; the octave above that is 440 Hz; the octave above that is 880 Hz, and so on. If you multiply the frequency by 2 or divide it by 2, you have the same musical note, but in a different octave.

Another way of doing this is by “stepping down” your fundamental frequency with *powers of 2*: 2, 4, 8, 16, 32, 64, 128, 256, 512, etc. Each number is double the number before it. For example: You've determined that an optimal frequency is 128,512 Hz for a certain pathogen. But your machine will only generate frequencies up to 5000 Hz. So you use one of the numbers that's a power of 2 to step down the frequency—in this case, 64. You divide 128,512 by 64 to obtain the frequency of 2008 Hz.

Some experimenters have also successfully used powers of 10—that is, 10, 100, 1000, etc.—but this doesn't work nearly as well as using powers of 2, because there is one peak and one trough on a wave (see Appendix C). Lists of already-computed calculations can be found at royalrife.com/lists.html.

Stepping down the fundamental frequency may work fine for most health problems, but people with cancer may obtain better results with a unit that can reach the MHz range. The higher numbers reflect the actual Mortal Oscillatory Rates of the cancer virus (see Chapter 2 for more information). However, two tumor frequencies in the lower range—2008.35 and 2127.5—have been found to work well.

Q. I heard that you get better results using a higher number derived from a calculator found on the Internet. Where can I obtain this calculator?

- A. This calculator is from Jeff Sutherland, PhD. He stated that after conducting over one thousand experiments, he found that his numbers “cut the time required to kill a pathogen by more than 50%,” compared to dividing by 2 to obtain lower octaves of the main frequencies. “I found a method of calculating scalar octaves that I now

use consistently. Simply divide or multiply by $\exp(3)$, $\exp(6)$, or $\exp(9)$.³⁷

Some people are understandably confused because Dr. Sutherland calls his frequencies “scalar octaves,” despite the fact that “scalar” technically refers to *longitudinal waves*, an entirely different phenomenon from EM waves. Sutherland cannot explain the theory behind his calculations, though some people use them.

Rifers who want, at no charge, a reliable division table to obtain lower octaves of the main frequencies can write Char Boehm in care of her website, dnafrequencies.com.

Q. Some frequencies are said to regenerate an organ or gland, rather than kill pathogens. How is this possible? And why didn’t Royal Rife address this?

- A. Killing or devitalizing a pathogen that doesn’t belong in the body obviously helps us function better. But what about direct effects on the cells? Could the emissions from some electromedical devices be rejuvenating or healing to the body?

Rife himself did not specifically focus on frequencies we would call “rejuvenating”; he was involved strictly with the destruction of harmful microbes (at least, that’s what the public was told). However, new evidence shows that the better rife machines *do* normalize cell function. Experimenters often find that:

- ◆ Frequencies that debilitate harmful microbes and frequencies that restore human tissue can overlap, but not always.
- ◆ Square waves may be better at killing harmful microbes, while sine or truncated triangular waves rejuvenate cells.
- ◆ Harmful microbes are adversely affected by the EM fields that are compatible with healthy tissue.

The overt pathogen-killing focus of rife technology sometimes eclipses solid data on tissue regeneration that has emerged from other sources of electromedical research. In the groundbreaking article “Electrical Properties of Cancer Cells,”³⁸ medical doctor and clinical nutritionist Steve Haltiwanger describes in detail how the body is a living electrical circuit. Cells and tissues are *conductors*: they promote electron flow. They’re *insulators*: they inhibit electron flow. They’re

also *semiconductors*: they promote electron flow in one direction. And they act as *capacitors*: they accumulate and store charge, and later release that charge. In addition to transmitting and receiving energy, each cell has its very own frequency with which it oscillates. Scientists have also discovered that in humans, the sinuses, some facial bones, and various bodily tissues contain magnetite, which responds to magnetic fields.

Not only is every cell in the body a transmitter and receiver of electromagnetic information, but *electromagnetic frequencies precede and correspond to biochemical functions*. We know, for example, that healthy cells oscillate at higher frequencies than do unhealthy cells like cancer, and the lower frequency of cancer is reflected by aberrant biochemical reactions within the cell. Likewise, the biochemical differences between normal healthy cells and cancer cells correspond to the differences in the electrical properties of each. The same holds true for magnetic fields. Magnetic fields correspond to biological activity. A change in the field means a beneficial or injurious change in the cells.

By the way, as you peruse various frequency lists, be aware that there’s a difference between frequencies (or substances) that normalize or regulate, and those that stimulate. *Normalizing* or *regulating* an organ or gland calms it if it’s overexerting, and gives it more energy if it’s lethargic. However, *stimulating* an organ or gland increases its output of activity. Whereas depleted body parts may benefit from carefully applied stimulation, organs or glands that are already overworking should not be forced into more activity. The few frequencies that appear to be stimulating to various organs or glands (as opposed to simply normalizing) may have an unwanted effect on you if you do not want that particular body part to be stimulated. That said, I have not heard reports from people who felt that their adrenal gland function (for example) was excessively boosted. As always, pay attention to how you feel and stop rifting if it’s not helping your overall wellness.

There’s one more aspect of the regeneration function of some rife machines: the presence of *scalar waves*, sometimes called *longitudinal waves*. Scalar waves are a form of energy not on the electromagnetic spectrum. They’re produced by any unit capable of emitting rapid, sudden electromagnetic spikes. These EM spikes are thought to unleash and activate the

If you want to find the
secrets of the universe,
think in terms of energy,
frequency and vibration.

—Nikola Tesla
Croatian scientist, inventor,
mechanical and electrical engineer,
and overall Renaissance man
(1856–1943)

scalar fields that are already present. The regenerative qualities of Rife's technology are separate from the pathogen-killing aspects, and may at least in part result from the balancing influence of these scalar waves.

Scalar fields affect the cells like charging a battery that has lost its power. Some rife machines may strengthen the external scalar field, thus making it easier for the person to access them. The machines may increase a person's receptivity to these scalar waves by strengthening his or her individual energy field. Or perhaps the devices actively engage the scalar waves and harmonize them. This would enable the particles comprising the scalar fields to communicate with each other and also with the body, transmitting information that allows the cells to function properly and heal. One manufacturer hypothesizes that his unit is particularly effective in providing access to the energy from this healing scalar field.

Electromedicine is still in its infancy. I believe that if we keep an open mind regarding the existence of non-EM energy, many applications for healing (and energy or power as well) will be discovered.

Q. My unit has settings for different shaped waves: square, sine, and sawtooth. What's the difference between the waveforms?

- A. The success of Rife Therapy depends on the machine used; but generally, some researchers prefer using *square waves* when dealing with *pathogens*, and *sine waves* when focusing on *cell regeneration and tissue repair*. Unlike sine waves, square waves contain harmonics and may have a better chance of targeting pathogens. So, if your machine cannot reach a high-frequency MOR, a lower-frequency square wave may work. See the earlier Insert, pages 524–526, "Signal Penetration: Wave Shapes, Harmonics, and Duty Cycles," for details.

Q. How do I know that Rife Therapy is safe? If it kills pathogens, won't it harm me?

- A. Although some of the frequencies are regarded as experimental, researchers generally agree that this technology is safe. The differences between highly complex human beings and simple microorganisms are substantial. Human cells are distinct from microorganisms in size, shape, density, chemical composition, electrical charge, and function. All these factors make it highly remote that any of the pathogen-destroying frequencies would affect us adversely. Even assuming that the resonant frequency of a pathogen

does resonate with some part of our physiology, *the amount of power needed to damage a human cell is so many times greater than the power needed to destroy the pathogen, that a properly made rife unit will not harm us or other complex organisms*. Think of the amount of pressure required to smash an ant with your finger. Now touch your arm with your finger, applying that same amount of pressure. What kills an ant hardly affects you.

Q. Most rife units that shatter or disable pathogens under a microscope or in a Petri dish are unable to achieve the same result in live human beings. Why? Is there something wrong with the machine?

- A. There's nothing wrong with the machine. As discussed in Chapter 2, Rife's best ray device destroyed microorganisms in both live animals (*in vivo*) and in Petri dishes and microscope slides (*in vitro*) because it transmitted in the very high MHz ranges and produced abundant harmonics. Due to legal restrictions, modern manufacturers have been forced to build devices that convey frequencies in a different manner. In many cases, they must also use different (though related) frequencies. This accounts for the discrepancies between what Royal Rife's units could do and what today's frequency devices can accomplish.

With this understanding, let us examine why modern devices can destroy harmful microorganisms in living bodies but not in Petri dishes and slides, and vice-versa. There are several reasons.

One, a living human or animal body functions very much like an antenna; the soft tissue and fluids are moving constantly. Possessing natural resonance, they receive and process frequencies much differently than a nutrient medium containing microorganisms, which by contrast is rather static. Two, the contents of a Petri dish and the body of a human being or animal have much different densities, water content, and electrical activity. In fact, one researcher points out, the body is composed of a mixture of chemicals similar to that of seawater, which is highly conductive. (He proposes designing *in vitro* tests that use a similar conductive medium, as this may more accurately simulate the effects of a frequency device on the body.)

A third possible reason for the difference in results *in vivo* and *in vitro* is that the velocity of the same signal is different in these two media. An analogy to this phenomenon is the way the pitch and tone of an audio signal sound different when transmitted underwater, as compared to through the air. These

differences may change the frequency required to address a pathogen. Rife sometimes put cultures inside large slabs of meat before exposing them to his ray device. Some researchers think that this may have been to simulate the frequency shift.

James Bare reports being able to explode paramecia with the same machine he uses on his live pets. However, his equipment is less than two feet from the specimens. If you're looking for a rife unit that can destroy specimens in a Petri dish, ask the seller if the machine is compatible with your research goals.

Q. If the frequencies are so effective, why do I need to use the machine more than once?

- A. The first, obvious reason for lack of results is that the frequencies you are using are not the ones you need.

The body's acceptance of the signal, however, is as important as the correct frequencies. Some inventors interpret this to mean that the more power the unit has, the fewer number of sessions you'll need. In this instance, *power* means the force with which the frequencies are transmitted by the machine into the body. The power of a machine can depend on the gases in the plasma tube, the electronics, and the strength of the current that feeds the unit. Virtually all units have adjustable controls, which provide more power. If the manufacturer says that it's safe, you can try moving closer to the machine.

But force or strength of the signal doesn't always mean *acceptance* of the signal. The body's tissues may become resistant to the frequencies. This is why it's so important to use a device that has been carefully engineered to be compatible with living tissues.

Dr. Jeff Sutherland, who has considerable experience helping others with severe conditions, points out that usually, illness-causing pathogens reside in multiple layers. For instance, viruses often live inside bacteria, and bacteria often live inside protozoa and worms. A protozoan might be devitalized, only to expel a viable bacterium—which in turn might force out a virus! Rife himself wrote that certain bacteria such as *E. coli*, and the bacilli for tuberculosis, typhoid and other diseases may release a form of virus. This is why experimenters must be creative and use different frequencies that cover viruses, bacteria and parasites. A smaller pathogen might be living inside a larger one.

Sometimes, the body's terrain supports the existence of different pathogens that don't live inside each other but nonetheless co-exist in a symbiotic relationship. If you are host to different pathogens, targeting them all in one session might produce a detoxification response that's too strong and causes considerable discomfort. Therefore, it's wise to regulate the die-off by not exposing yourself to all of the required frequencies at once. Even if you're hosting only one type of pathogen, if you have a chronic or severe condition, killing or disabling all of them at once could similarly produce too strong a detoxification response. Therefore, limit the time you spend with the equipment.

Additional sessions will also be needed if you're using a frequency for too brief a time and the frequency only stuns, rather than disables or kills, the pathogen. Experiment with how long you need to run a frequency. If the pathogen is especially resistant, use the gate feature, and sweep or converge if your unit has them.

Sometimes the tenacity of the illness requires a more aggressive approach. For instance, most people with cancer rife twice a day for 4 to 6 months, depending on the machine and the state of the person's health.

The tumor comes off in layers, much like an onion that's being peeled. After the person appears healed, there's a maintenance period. The unit is used once a day or several times a week, for at least several months.

Parasite elimination likewise requires a very aggressive strategy. Frequencies that disable an adult worm will not affect it in its earlier stages as a vastly different egg; so people or animals afflicted with worms must wait for the eggs to hatch into mature adults before rifting can have an effect. Thus, more sessions are required.

More sessions are related to more time per session. Researchers theorize that some people need longer sessions because some pathogens may be hiding deep in the host's tissues. The fields of the surrounding host tissue mask the frequencies of the individual microorganism, much as an individual violin can't easily be detected from within an entire orchestra.

Viruses may be especially difficult to kill. They lack their own RNA and DNA (which is why they appropriate the host's RNA and DNA). RNA and DNA are very sensitive to electromagnetic fields; but a virus, lacking these chemical building blocks, may find it easier to resist the effects of the frequencies.

**The most outstanding feature
of life's history is a constant
domination by bacteria.**

—Stephen Jay Gould
American paleontologist, teacher,
evolutionary biologist,
science historian, and magazine columnist
for New York City's
American Museum of Natural History
(1941–2002)

Another reason to use the machine multiple times is the naturally occurring mutations of “offspring” pathogens. (Sweeping is helpful in this situation.)

Finally, don’t forget that the body needs time to balance the terrain that initially allowed the pathogens to multiply. If the terrain isn’t altered, the pathogens will continue to proliferate: if they leave, it may only be temporary. A researcher once told me that using frequency equipment is usually an “80% solution.” What he meant was that even when the correct frequencies are used at sufficient power, the best that can be hoped for is a reduction of 80% of the pathogen population (or maybe 90% when using the sweep function). For someone with minimal toxin accumulation and a healthy immune response, killing 80% of the pathogen population may offer enough support so the body can control the remainder of the infection. However, for someone with limited immune function and excess accumulated toxic waste (which provides a fertile feeding ground for microorganisms), killing 80% of a population may not be sufficient. Even if a frequency device killed 90% of harmful microbes, some fungi and bacteria can multiply so quickly that within 24 hours the population can match its original size. Making the terrain inhospitable to pathogens is essential to prevent an infection from recurring.

We leave the womb without a single microbe. As we pass through our mother’s birth canal, we begin to attract entire colonies of bacteria. By the time a child can crawl, he has been blanketed by an enormous, unseen cloud of microorganisms—a hundred trillion or more.

They are bacteria, mostly, but also viruses and fungi (including a variety of yeasts), and they come at us from all directions: other people, food, furniture, clothing, cars, buildings, trees, pets, even the air we breathe. They congregate in our digestive systems and our mouths, fill the space between our teeth, cover our skin, and line our throats.

We are inhabited by as many as ten thousand bacterial species; those cells outnumber those which we consider our own by ten to one, and weigh, all told, about three pounds—the same as our brain. Together, they are referred to as our microbiome—and they play such a crucial role in our lives that scientists . . . have begun to reconsider what it means to be human.

—Michael Specter

American award-winning journalist, book author
and *New York Times* staff writer,
specializing in medicine, science and technology
(born 1955)

Q. Pathogens can become resistant to antibiotics. Can they develop a similar immunity to frequencies and proliferate?

A. Yes, they can. Earlier, I analogized the soldiers on the bridge who “break step” to bring the swaying bridge to a halt. Think of the swing analogy too. One person pushing the swing does so in a regularly paced, constant rhythm. This allows the swing to gain momentum. Now another person comes along who pushes the swing at a different rate. If the swing is not pushed at precisely the right moment, this new pair of hands may disrupt the momentum the swing had from person number one, and may even stop the swing completely. You don’t want to confuse the body with too many frequencies. This confusion, along with too brief a time with each frequency, may merely “tickle” or stimulate the pathogens instead of disabling them—thus giving them time to mutate. Put another way, too brief a session can provide what might be called positive stress, to which they can adapt. However, an adequately lengthy session provides copious amounts of negative stress (to the pathogen, that is).

This is why you need to give yourself enough time with the device. You can compensate for the pathogens’ adaptation mechanism by programming the machine to perform a sweep or converge. All good rife units are equipped with this feature.

Incidentally, there may be some natural small variations in the oscillatory rate of pathogens. Some researchers suspect that pathogens change their rate every twenty, fifteen or even ten years, although the changes may be slight. Even the time of day and cycle of the moon may affect their viability.

Q. How much frequency drift is allowable for the rife equipment to still be effective in destroying pathogens?

A. This question refers to the capability—either random or deliberately programmed—of a signal to drift or meander a bit under or over the number to which it was set. Say you set the machine for 660 Hz. The indicator on the machine might initially read 660 and then go up to 661. Or the indicator might go down to 659. These small shifts naturally occur due to the components, rather than being deliberately programmed into the unit. However, some machines can be set to drift plus or minus any number of Hz on either side of the main frequency.

There’s a lively debate among rifers as to how much drift on either side of the signal is acceptable before

the frequency ceases to have the desired effect. Some researchers feel that the signal should be absolutely steady for the most beneficial effect. Others maintain that a small waver in the signal is preferable, in case the pathogens have mutated to a slightly higher or lower frequency—after all, something that is alive is never static. I think that both viewpoints have merit. Sometimes the lack of precision doesn't seem to matter; other times, it does. To make absolutely sure that you have targeted the microorganism accurately, set the machine to do a sweep a couple of Hz before and after the main signal. However, as with any sweep, you'll need to program a longer session time to ensure that the machine lingers on all of the increments long enough to devitalize the pathogen and not merely irritate it.

Precision matters more with low numbers than high ones, because the percentage of how much the number might deviate is greater with a lower figure. Say you want 1.2. If your machine drifts to 1.3 or 1.4, this is a huge deviation—almost 10%—from the number you want. But if you want 802 and the machine registers 800, the deviation is only $\frac{2}{802}$ of 1%. Make sure that your machine can handle decimal points, as some numbers must be precise.

Q. There are some units that deliver frequencies in rapid succession, usually in the high range. Are these machines effective?

- A.** There are devices on the market that rapidly deliver frequencies in succession, covering a wide range (including RF). Just a few are the Multi-Wave Oscillator, the BELS machine, the Tesla Lights™ machine, and the Molecular Enhancer™. These units are oriented more to normalizing cell function, regenerating tissue, and alleviating pain than they are to killing pathogens.

This equipment may not be suitable for everyone, however. The wide range of frequencies is produced by a spark gap, or voltage that leaps across a space between two components. Whenever a spark gap is used, the signal is chaotic. Also, part of the signal is in the RF range. Earlier in this chapter I discussed the potential harmful effects of radio frequencies (RF). Some people react negatively to both RF and to chaotic signals. Several researchers are skeptical of such units precisely because of the chaos. Might the chaotic signals be inducing biologically incompatible chaos into an otherwise functional system?

Traditional Buddhist Healing Prayer

Just as the soft rains fill the streams,
pour into the rivers, and join together in the oceans,
so may the power of every moment of your goodness
flow forth to awaken and heal all beings—
those here now, those gone before,
those yet to come.

By the power of every moment of your goodness,
may your heart's wishes be soon fulfilled
as completely shining as the bright full moon,
as magically as by a wish-fulfilling gem.

By the power of every moment of your goodness,
may all dangers be averted and all disease be gone.
May no obstacle come across your way.
May you enjoy fulfillment and long life.

For all in whose heart dwells respect,
who follow the wisdom and compassion, of the Way,
may your life prosper in the four blessings
of old age, beauty, happiness and strength.

Nevertheless, one cannot discount reports from the many satisfied users of such machines who report overcoming illnesses and feeling recharged. Also, many effective electromedical devices operate on similar principles. Is it possible that people who feel worse after using these devices lack the cellular strength to resist chaos? Might they simply be overly sensitive to RF? I personally found the Molecular Enhancer™ quite helpful for pain management after a severe auto accident. The company's literature states that the machine raises the electrical potential of cells.

Results from variable-frequency devices depend on the subject's condition. If you decide to experiment with such devices, monitor your responses carefully and stop using the equipment if you don't feel better within a reasonable period of time.

Q. Is there any other equipment that's compatible with Rife Therapy that might help me?

- A.** I can't think of any electromedical equipment that wouldn't be compatible with rifting. This includes the hand-held Magnetex®. Its spinning magnets create a vortex that draws pathogens, chemical toxins and other debris out of the tissues into the bloodstream. Pathogens in the bloodstream are more accessible to being disabled by rifting, which could help people with Lyme for example. See Appendices A and C.

Practitioners and Rife Therapy

Q. My doctor says that if Rife Therapy really worked, he'd know about it. So how can I be sure that it's effective?

- A.** Given the attempts to suppress this technology, it's unlikely that your doctor would have learned about it in medical school. You are the one who has experience with this modality, not your doctor—so you need to ask yourself if your health is better, if any possible detox reactions were lessened by cleanses, and if you are continuing to get better. *Bottom line, if you are helped by the frequencies, they work.* It's significant that no serious scientific research articles have been published that can debunk this technology. We must ask why.

Rifing is still an experimental technology, in part because during Rife's time, the medical authorities confiscated equipment and destroyed valuable records of cures instead of allowing Rife and his colleagues to continue their studies and clinical treatments. It's my earnest hope that this *Rife Handbook* will encourage more researchers to come forward with documentation, and inspire other qualified researchers to seriously study this exciting and growing field of frequency healing.

Q. Instead of buying my own machine, shouldn't I see a doctor or qualified rife practitioner for sessions? I'm afraid I won't know what I'm doing and will hurt myself.

- A.** In most areas of the United States, it's illegal for licensed health practitioners to administer rife sessions. If they're caught, they can lose their license and even go to jail. It's also illegal for a layperson to provide rife sessions for a fee—especially if medical claims for the equipment are being made, and sometimes even if they aren't (see Appendix B). This is why a “qualified rife practitioner” doesn't exist.

Even if it's legal for a health care provider to administer Rife Therapy, I strongly advise you to buy your own unit anyway. Even though the initial cost is more than a single doctor visit, over a period of time it will be much less expensive for you to have your own machine than pay the practitioner every time you want to use his or her equipment. Also, it won't always be convenient (or possible) for the health care provider to give you sessions just when you need them. Finally, you own the unit and get to use it for yourself and anyone else, long after your last appointment with the health care provider has ended. People who are

chronically ill, or have a condition that requires daily use, need their own unit.

Don't be intimidated by this equipment! That's why I wrote this Rife Handbook. If you apply what you read in these pages, you'll be able to take charge of your own health.

Q. I have a serious illness and require medical supervision. How can I find a doctor to work with while I give myself rife sessions—someone who's knowledgeable about Rife Therapy?

- A.** I am glad that you are seeking outside assistance. Part of taking charge of your own health means knowing when to seek guidance from an experienced and trained professional. The guidance you require may range from medical testing and nutritional assessments to psychological and spiritual counseling.

In most states in the US, it's illegal for a licensed physical or other health practitioner to use Rife Therapy (see Appendix B for details). Therefore, you'll be using the equipment yourself and seeing a professional for medical supervision. Because Rifing can create a lot of toxic debris in the system, it's important to be monitored, especially if your elimination channels (colon, kidneys, liver and lymph) are weakened.

Your guide can be a open-minded medical doctor, a naturopath, osteopath, chiropractor, homeopath, or other health care provider. Thanks to their training, and access to tests and various medical devices, these practitioners are equipped to detect problems that the average layperson probably won't recognize. The benefits of consulting a professional can be invaluable, especially for someone with a life-threatening condition. One rife machine manufacturer tells me that without exception, all of the complete recoveries he has seen—some in people labeled “terminally ill” (such as those with cancer)—have occurred when these people have been supervised by holistic practitioners.

Your health care provider should be a facilitator, a co-creator in your process, not an authority in whom you place unwarranted blind trust. As the one who's securing medical services, you have a right to know the health care provider's training and philosophy of wellness before you give your money to him or her. Even if someone else—such as a family member or your insurance company—is paying, *it's your body and your life.* Ask to speak to the practitioner so you can discuss your concerns before you step inside the office. Ask if s/he will work with you while you use your frequency unit. At the very least, you'll need someone

who can monitor your detox pathways and help you with any problems that may occur from the die-off.

Most health professionals have been taught to condemn Rife Therapy without investigating it, so it's important that you discover beforehand your practitioner's tolerance level. (Be aware that most health professionals may lose their licenses if they even *discuss* non-approved procedures, because this can be construed as *promoting* them. Therefore, they might not want to talk to you about rifting, at least not in detail.) If the doctor doesn't know about Rife Therapy but is open to your using it, you may decide to become a client—especially if the doctor has a good reputation and track record. However, if the doctor doesn't know about Rife Therapy and doesn't *want* to know about it, you probably won't receive help integrating your home care with the protocols the practitioner gives you. You may also find that your self-care will conflict with the protocols the doctor wants you to follow. It's not worth fighting a health professional to get what you want, especially if you're very ill and have low energy. You may need to persist in your search until you find a good match.

The health care providers most likely to be open to Rife Therapy are those trained in either naturopathy or osteopathy. They're taught that their job is to facilitate the client's healing by analyzing the underlying causes of illness, rather than to merely suppress symptoms. Both naturopaths and osteopaths (and even chiropractors to an extent) receive rigorous medical training similar to that of allopaths, including anatomy, physiology and pathology. Additional training may include organic chemistry and a hospital internship in surgery or internal medicine. Holistic programs typically include nutrition, herbology, hydrotherapy, counseling, meditation, Traditional Chinese Medicine, and bodywork such as massage or trigger point release. Some schools offer aromatherapy and energetic therapies as well. If you have a serious illness such as cancer, you might want to consult an allopathically-trained physician who has studied holistic protocols after graduating from conventional medical school.

Whatever type of assistance you choose, your medical guide will want you to be informed and will welcome your questions. Don't be afraid to "step on the doctor's toes." If your doctor appears threatened

or is dismissive when you start asking questions, s/he is obviously more interested in defending his or her position than in helping you heal. This isn't someone I would see; would you?

One more thing. Legally, rife machine vendors are not allowed to provide medical advice, even if they are licensed health professionals.

Q. I want to try Rife Therapy before buying a unit, to see if the technology works. How can I find a health professional who has a rife machine?

- A.** In the majority of states in the US, it's illegal for a medical doctor or other licensed health care provider to use Rife Therapy for clients. Even if the health practitioner doesn't charge money for sessions, he or she can have his or her license revoked because

it's not part of the standard of care as described by the licensing board that granted the provider a license. In any health-related discipline, a licensing board tells practitioners what they can and can't use as a therapy, regardless of what the client actually needs. (If a layperson offers Rife Therapy for a fee to treat a medical condition, she or he can be fined or even thrown in jail for practicing medicine without a license. See Appendix B.)

Nevertheless, some locations do allow frequency therapy, so investigate what the laws are where you live. For example, one US state that's exceptionally accommodating to Rife Therapy is Arizona. The licensing board for homeopathy understands frequency and electromedical therapies—after all, homeopathy is an energy-based modality. Therefore, a number of open-minded medical doctors take the required courses to become homeopathic physicians, receive their homeopathic medical doctor degree (an MDH), and expand their practices to include a wide variety of "energy medicine" modalities. The doctor will be listed as "Name of Practitioner, MD, HMD." In the vicinity of Phoenix, Arizona alone, there are several clinics that specialize in treating people with cancer and which use Rife Therapy as part of their protocols. Some individual doctors also use Rife Therapy.

People from the US and Canada with serious conditions such as cancer or HIV are fortunate that they can choose from numerous clinics in Arizona. Or, they can go to Mexico, where Rife Therapy is

**Medicine is not only a science;
it is also an art.
It does not consist of
compounding pills and plasters;
it deals with the very processes
of life, which must be understood
before they may be guided.**

—Paracelsus,
born Theophrastus von Hohenheim
Swiss physician,
known as the "Father of Toxicology,"
and an alchemist and astrologer
(1493–1541)

permitted. If they can travel farther, there are clinics and physicians in Europe. In many countries outside North America, it is legal for rife technology to be used for medical purposes.

If you make an appointment with a clinic or doctor permitted to use Rife Therapy—a good idea anyway if you have a serious condition—you’ll soon know if this modality is for you. Be aware, however, that most of the doctor and clinic situations I’ve mentioned are invested in treating people. There’s no guarantee that they’ll allow you to “try out” a piece of equipment without making an appointment for actual treatment, unless they also sell rife machines and know that you’re seriously considering purchasing a unit.

Alternatively, you can ask a vendor if there is someone living near you (a layperson, not a licensed health professional) who might be willing to let you try their device, though due to privacy issues this may not be an option. You can also join a rife chat group on the Internet (see Appendix A for a list of groups). Many experimenters network in this manner, and some are quite willing to let others try their equipment.

If you are seriously ill, I encourage you to buy a unit for yourself. Conditions like cancer require the use of a machine twice a day for a minimum of 4 to 6 months, and for several months afterward should you decide to continue with a “maintenance” program. If you use the unit sporadically and skip days, or if you don’t linger for a long enough time on the proper frequency, you may end up “tickling” instead of destabilizing the pathogen, thus causing it to grow instead of die. Some manufacturers have a limited-time return policy on their units, minus a standard restocking fee. As there is rarely a return policy on allopathic medical equipment, this service offered by rife technology vendors is quite generous. Consider taking advantage of this option. Should you decide to return the unit, you can regard the restocking fee as a rental.

Q. I am a health practitioner and want to use a rife machine in my office. What do I need to know?

A. Your first concern is the equipment you use. Aside from the features and track record of the machine, there are two approaches you need to consider:

- ◆ *Some practitioners choose to use an FDA-accepted device.* The FDA most commonly allows a device to be used for two reasons: *research* and *pain management*. An FDA consent for research (secured by the manufacturer) covers a professional’s use of a device for investigative purposes. Research

can include treatment, as long as the practitioner keeps careful records. (Outright FDA acceptance, *not* “approval,” of a device for pain management follows the standards set by the familiar TENS unit. Even if the instrument may in fact do much more than help ease pain, “pain management” must be its official designation if the manufacturer wants to acquire and maintain FDA acceptance and if the practitioner wants to obey the law. See the discussion of FDA acceptance of a device as a TENS unit, pages 560–561.) Note that most frequency device manufacturers don’t have the desire or funds to make their equipment FDA-compliant.

- ◆ *Some practitioners prefer to benefit from an FDA exemption category that allows a practitioner to utilize laboratory equipment and modify it for their practice, as long as the use is responsible and is not being offered for medical purposes.* This little-known clause on the FDA website states: “The following classes of persons are exempt from registration . . . Licensed practitioners, including physicians, dentists, and optometrists, who manufacture or otherwise alter devices solely for use in their practice. . . . [as well as those] who dispense devices to the ultimate consumer or whose major responsibility is to render a service necessary to provide the consumer (i.e., patient, physician, layman, etc.) with a device or the benefits to be derived from the use of a device . . . whose primary responsibility to the ultimate consumer is to dispense or provide a service through the use of a previously manufactured device.”³⁹

In other words, you are legally permitted to use a frequency generator in your practice. Even if that frequency generator is attached to hand-held electrodes or a radiant plasma tube—transforming it into what you or your client might call a “rife machine”—it’s still a frequency generator, standard equipment in laboratories. You are allowed to modify it for use in your practice. We are faced, again, with the restriction that *you must not use a rife machine for medical purposes. Don’t provide frequency sessions as a medical service and don’t make any medical claims.* Keep telling yourself (and your client), “Not for medical purposes. Not for medical purposes.” One professional I know stated that the energy from the radiant plasma would provide energy to the cells. Another told her client that the plasma would help balance the client’s chakras. These might not seem like medical claims, but you

should know that “providing energy to the cells” and even “chakra balancing” *might* be construed by some medical authorities as medical claims. It depends on where you live and the leniency of your licensing board (see Appendix B for details).

One more thing. Keep in mind that if you, the practitioner, are involved with equipment that has become entrenched in the legal system—either from having made careless marketing claims or through a deliberate decision to classify the device as a TENS unit—you are likely to be entrenched in the legal system, too (at least where rife machines are concerned). Make sure that the manufacturer of your machine has marketed it correctly, and has avoided making claims that are medical or that could be construed as medical. Making medical claims potentially puts the equipment under FDA jurisdiction *forever*. It may be wise to select a machine that isn’t involved with any FDA ruling.

Now, some input about the sessions that you’ll be administering:

- ◆ *Make sure that the client’s detoxification pathways are reasonably clear before the client begins rifting.* Rifting can release plenty of microbial die-off, so the body must be able to efficiently eliminate wastes. If the colon, kidneys, liver or lymph are congested, be ready to help open these channels.
- ◆ *Carefully monitor your clients.* This is especially true for people with difficult conditions such as Lyme disease and its related co-infections. Sometimes, three frequencies at 15 seconds per frequency is all a sensitive individual can handle. You’ll need to emphasize to the client that “less is more,” and that it’s in their best interest to spend less time with the equipment until they feel better. Someone with cancer will have to be carefully monitored as well, especially if they’re taking pharmaceuticals, or vitamin, mineral or herbal supplements. Rifting causes the cellular membranes to become more permeable, so less medication and supplementation is needed.
- ◆ *If you treat clients in your office or clinic, make sure you adjust your schedule to meet their needs and not vice-versa.* Everyone’s die-off schedule (if there is die-off) is different. You may schedule rife sessions with your clients, but if they feel too ill on the appointment days to do the sessions, you’ll need to be flexible and reschedule without penalizing them financially for a missed appointment.
- ◆ *Charge less money.* Lyme clients in particular will need less time with the equipment, and therefore less of *your* time will be required. It’s unfair, and perhaps unethical, to charge them the same rates as you would charge clients who take more time. Also, please consider the physical, mental and financial hardships on clients, especially those who have been very ill for a long time with ailments that are difficult to diagnose and/or treat.
- ◆ *Do not treat someone for (the pain of) cancer unless you can do this every day for a minimum of three months!* The most popular cancer protocols involve rifting twice a day with no breaks. Do you have the time, energy and staff to administer to the client for a long-term commitment of 3 to 6 months or longer? One practitioner had a client with cancer (now recovered) who lived almost next door to her clinic. The client was trustworthy, so she was given the office keys. Twice a day she unlocked the door to give herself sessions, even on weekends and holidays when the clinic wasn’t normally open. I mention this unusual situation as an example of the commitment required to help people with cancer (as well as the remarkable character of both women who made this arrangement). The majority of cancer sufferers who take breaks from rifting find that the frequencies no longer work, and their tumors start to grow back because the pathogens have mutated. If you can determine what frequencies the client needs and you can make adjustments for pathogen mutations, breaks between sessions will not matter as much. But why risk it? Anyway, it’s more empowering—not to mention successful from a healing standpoint—if clients have their own equipment.
- ◆ *Be willing to tell your clients that it’s in their best interest to buy their own machine* (which is usually the case). Your ultimate goal must be the healing of the client, not more office visits and fees for you. If your client lives far away or travel is difficult; if your schedule doesn’t permit you to administer the sessions when they’re needed; or if (for whatever reason) you’re unable to monitor the client properly: assuming that Rife Therapy is important to the person’s recovery, the ethical and right thing to do is encourage the client to purchase a unit for home use. This will help with healing, promote good will, and may even bring you more referrals from grateful clients who call you “the doctor who cares more about helping others than making money.”

General Health

Q. Rifing relieved pain I had for decades. If the frequencies are supposed to kill pathogens, why would they work for pain?

A. We know that the frequencies help normalize the cell membrane. This allows the exchange of numerous biochemicals that help restore tissue function. Michael Tigchelaar reports that for 26 years, a friend of his suffered hip pain due to an old football injury that was completely relieved in one 30-minute session with an electrode unit. “It is possible,” he writes, “that the electrical impulses generated by this set mimic the electrical discharges of the central nervous system and instruct the brain and body to generate specific neuropeptides, the key chemicals used by the body to heal. Proper communication between the brain and the area of pain may then invoke a rapid healing process that previously may have not been possible.”⁴⁰

The effects of various types of beneficial radiation are discussed in more detail elsewhere in this chapter, in Chapter 2, and in Appendix C, “Healing with Electromedicine and Sound Therapies.”

Q. I’ve been taking powerful drugs for my condition. Can I still give myself rife sessions?

A. The energy from many electromedical devices, including rife machines, causes *electroporation*, or permeability of the cell membranes. This means that substances can enter more easily—regardless of whether those substances are nutrients, herbs, vitamins, minerals, or medications. Doctors have generally found that when their clients are rifing, the usual amounts of pharmaceuticals or supplements must be adjusted. Make sure you tell your doctor that your cellular uptake is more efficient, and that as a result, your dosages need to be carefully monitored.

Q. Are there any conditions that rifing can’t help?

A. There are several conditions that the frequencies may not be able to correct: damage caused by nutritional deficiencies; damage due to drugs or toxic chemicals; severe trauma due to surgery or mechanical injury; and damage due to the effects of electromagnetic radiation, as long as that radiation continues to exist.

That said, it can’t hurt to experiment. At best, some of the frequencies may help regenerate some tissue, or at least alleviate pain. At worst, the frequencies won’t have any effect.

Updates on Rife Technology, Research, and Legal Issues

Q. How effective is the therapy if the machine I’m using wasn’t built by Royal Rife himself? Is it possible to obtain an original Rife Ray?

A. While it’s true that modern units do not perform quite as well as Rife’s best Beam Rays unit did, this technology is still remarkable in its own right. Frequency devices that utilize principles similar to what Rife developed have helped hundreds of thousands of people worldwide, and continue to help.

Q. Are any of Rife’s microscopes still in existence? And do they work?

A. Rife’s original microscopes that are still in existence are either not working, or are being kept away from public access by their owners. Fortunately, one microscope that even exceeds the power and accuracy of Rife’s microscopes—while rendering tiny viruses visible in their live state—is now available for sale. In the early 2000s, the German company Grayfield Optical launched the Ergonom microscope, invented by scientist Kurt Olbrich. The Ergonom has a depth of field unsurpassed by any other microscope, including those invented by Royal Rife. In addition to its top-of-the-line Ergonom, it now offers less expensive models that allow most pathogens to be viewed unstained, and whose resolution, color contrast, and depth of field are still significantly better than those of normal optical microscopes. This holds great promise for Rife researchers who want to obtain data quickly and easily. See Appendix A for more information.

Q. If Rife Therapy is successful, why haven’t I heard about it?

A. There are many reasons why the American public hasn’t heard of Rife Therapy. It’s illegal for any type of frequency device to be marketed in the US to treat illness (although a few machines are cleared or approved by the FDA for pain management). Medical journals do not accept research on Rife Therapy for publication—although ironically, for decades thousands of studies that don’t acknowledge Rife and his inventions have been published on the successful use of frequencies to treat illness (see Appendix D). A US researcher made some preliminary data available on using a Bare-Rife machine to kill leukemia cells *in vitro* (see Appendix E); but whether this therapy will

be embraced by mainstream medicine remains to be seen.

In general, though, US doctors caught using rife technology in their practices may have their medical licenses revoked. This is why the majority of medical studies on frequency therapy are conducted outside the US, and the technology is approved for use in countries outside the US.

Many people believe that because they haven't been exposed to this technology, it's either fraudulent or a fairy tale. But nothing could be further from the truth. Let's explore the mechanisms of repression in greater detail.

- ◆ *The Lack of FDA Acceptance, and Pressure from the Pharmaceutical Industry.* As discussed in detail in Chapter 1, in the United States the pharmaceutical industry has a cozy relationship with the FDA and the AMA. Depending on many variables, it can cost from \$800 million to \$1.7 billion or even higher *per drug or medical device* to prove that a drug or device is effective. Pharmaceutical companies quickly and easily recoup their investment because these "testing" fees are built into the cost of the drug. Also, a drug doesn't eliminate the root cause of an illness, but instead merely suppresses symptoms. Therefore, its use creates repeat customers. A consumer might spend thousands on the same drug over the course of many years or even a lifetime.

In comparison, rife technology can eliminate all or most drugs, the equipment is bought only once (or is replaced or upgraded infrequently), and can be used not only by the purchaser, but by that person's family and friends. Therefore, the profit margin for frequency machines is relatively slim. The few electromedical device companies that have been able to invest considerable sums into testing for the FDA or Health Canada (the Canadian equivalent of the FDA), have received approval not for specific medical conditions, but for pain management.

The FDA clearly favors treatments that support allopathic doctors. To obtain drugs, one must visit a doctor for a prescription. In contrast, rife sessions can be self-administered, often without doctor consultations. Rifers tend to consult health care

providers who are holistic. Holistic practitioners are often harassed by the medical authorities, sometimes arrested, and some have even had their licenses seized for promoting non-invasive methods of healing that don't involve drugs.

- ◆ *Media Blackout in the Scientific Community and the Mainstream News.* Another reason that Rife Therapy is still relatively unknown is the resistance to its being publicized, in both medical journals and the mainstream news. In the Rife community, respected MDs and PhDs have had their credible research submissions returned to them by the editors of medical journals. And if medical journals don't publish clinical trials on Rife Therapy, newspapers and magazines generally don't report it. So the vicious cycle continues. People who depend on government approval for safety and effectiveness of a treatment are wary about trying a modality that is neither well publicized nor legally approved for medical purposes.

In the US, the general public tends to believe that if you haven't read about something in medical journals or newspapers, or heard about it on the 6 o'clock news, then it's not worth knowing about. *But publicity is not the equivalent of quality.* Just because an article is accepted for publication in a medical

journal doesn't mean that it's scientifically sound or even worthwhile. Conversely, just because an article isn't printed doesn't mean that its content is trivial or invalid. It might be about the healing modality of the century—but the public will never have the opportunity to find out what it's missing.

- ◆ *Peer Pressure and Legal Intimidation of Doctors and Scientists.* Some scientists and clinicians in the US are unwilling to risk publicizing their research because of the notoriety surrounding frequency therapies in general and rife technology in particular. Not only are doctors (understandably) unwilling to subject themselves to unfounded fear and prejudice, but using equipment in a medical context that has not been approved by the FDA for medical purposes allows a medical board to legally revoke a practitioner's license. Many of Rife's colleagues received threats of losing their licensure. This mentality unfortunately has not changed very much in 70 years.

Coming to terms with the fear of death is conducive to healing, positive personality transformation, and consciousness evolution.

—Stanislav Grof, MD, PhD
Czech psychiatrist,
co-founder of transpersonal psychology
and consciousness researcher
(born 1931)

Although some manufacturers do conduct their own clinical studies, legal prohibitions against making claims of curing disease force their studies to remain private. Thus, most users—at least in North America—must rely on anecdotal reports.

The average consumer cannot expect to hear about rifeing from his or her doctor, either. Health professionals will not treat clients with Rife Therapy for fear of their licenses being revoked.

Some conscientious clinicians and rife therapists are conducting private clinical trials. On request, they will present medical records such as oncology reports, “before” and “after” X-rays, and other written statements on hospital or doctors’ stationery that indicate complete healing of the disease (this often includes remission from cancer). One Rife researcher I know is holding structured sessions with volunteers, and is careful to conduct the following “before,” “during” and “after” tests: urine and saliva pH analysis, a 24-hour urine sampling to monitor minerals and trace elements in the body, the quantity of pathogens in saliva, and live blood analysis on an ongoing basis. However, medical journals will not publish these reports. Most medical journals contain pharmaceutical ads. Those journals that do not, are financially supported by the drug companies.

Many countries outside the United States are not only conducting electromedical research, but they are using rife and other equipment to treat serious diseases. Nevertheless, the majority of people in the US believe that this country sets the “gold standard” for knowledge. This belief is narrow and limiting—not to mention insulting to other cultures! Ultimately, those who choose the path of fewer options will pay a high price. They will sacrifice not only their health, but also their autonomy and freedom.

Q. Where can I find documentation of successful clinical trials showing that Rife Therapy has cured illness? And where is this technology being used today?

A. Although the climate in the US and Canada is bleak, outside North America the situation is very different. Serious scientific research has been conducted in Australia, Austria, Belgium, China, Finland, Hungary, Ireland, France, Greece, Italy, Luxembourg, Portugal, South Africa, Spain, Romania, Switzerland, South Korea, and the Ukraine, among other places.

In some of these countries, medical clinics and hospitals routinely use frequency devices (many of which are pad units). “In Europe, where I am based,” writes Peter Walker, “rife is used in mainstream medicine.”⁴¹ Mr. Walker, a Britain-born researcher who speaks fluent German and lives in Germany, regularly posts research on electromedicine on his website. Here is a small sample of some studies and clinical trials that resulted in units being approved for medical use outside the United States:

- ◆ The Hungarian/German device company, Oncotherm (oncotherm.org/eng), manufactures fully certified electromedical devices for the European market. Their EHY-2000 unit combines rife-style frequency treatments with heat therapy (called hyperthermia in medical circles) for the treatment of cancer, as both cancer cells and pathogens cannot survive at high temperatures. The equipment, used in European hospitals, has successfully treated over 100,000 people. One of many studies proving the efficacy of the machine was conducted by Gabor Andocs, DVM, in Budapest, Hungary. In the controlled study using rats, hyperthermia was found to be 17% better than no treatment whereas Oncothermia—as the combination of hyperthermia and rife modulation is called—was found to be 56% more effective than no treatment, and three times more effective than hyperthermia alone. The electrical field of the combined heat and frequencies is directly absorbed into the extracellular liquid of the tissues, thus destroying the membranes of the cancer cells. Treatments have proven successful at eliminating tumors in the bladder, brain, breast, cervix, colon, esophagus, kidney, lungs, ovaries, pancreas, stomach and throat, among other areas.
- ◆ The PET machine, made by Electromed in Australia, is a rife unit approved for use in Australia. Although the machine is approved for treating arthritis and back pain, one can use this device to treat a wide range of illnesses. The following medical study on the efficacy of rife technology was performed in Australia:

The effectiveness of [Rife] Frequency Therapy in relieving arthritic symptoms in 49 randomly selected volunteers suffering from chronic rheumatoid and osteoarthritis was investigated in a 3-month placebo study, conducted at the Tuggerah Lakes Community Centre on the

Central Coast of New South Wales (10th May 1993 to 14th August 1993).

The net mean reduction in pain of the treated volunteers, when compared with the untreated group, was 21% which is in good agreement with the net mean 26% reduction in oxidative processes in the treated versus untreated groups.

The significant improvement in treated volunteers' signs and symptoms was confirmed in written testimonies requested from each participant at the conclusion of the study. . . . The study results suggest that . . . Audio Frequency [Rife] Therapy is highly effective in the treatment of osteo and rheumatoid arthritis. After 36 three-hour treatment sessions of Audio Frequency Therapy, the net mean overall improvement in the arthritic condition of treated volunteers (irrespective of type of arthritis suffered) was approximately 25% (based an analysis of pain levels and HLB blood tests).⁴²

Several pad devices, including the Swiss F-Scan, have been given official European medical CE certification (the equivalent of FDA approval in the US) for use by medical doctors.

The Internet has been a major influence in bringing cutting edge material to the public. Perhaps this is one reason that medical organizations—along with some government officials in the US, China, and other countries—are trying to restrict access to this material. In some cases, they have succeeded.

Q. Where can I find the devices you mention in this book?

- A. See Appendix A for selected frequency equipment manufacturers. You can also find electromedicine equipment on the Internet. Keep in mind that rife machine vendors are not allowed to make medical claims for their units, so the data you are given may be less informative and substantial than you'd like. Sellers of equipment are not even permitted to provide anecdotal reports from users about how the machines have helped them. At best, you'll find a good summary about the specs of the unit itself: how much power it emits, its size, features, the range of frequencies it delivers, its programmability, etc. While this is useful and necessary information, you won't get its track record in treating illness.

You can, however, find forums and chat groups on the Internet devoted to rifting and other electromedical equipment. Many users are eager to share their stories of healing (or not) with others. If you have Internet access, spend time online with other experimenters. You will learn a great deal that sellers are legally forbidden to put into writing.

All kinds of electromedical equipment, including rife devices, are on the Internet. You can search for them with phrases such as "rife device," "rife machine," "rife frequencies," "frequency device," "frequency therapy," "resonant light," "pulsed plasma," "pulsed energy," "electromedicine," etc. These keywords may lead you to articles on diseases that are treated with pulsed magnetic or electrical fields, but which do not specifically mention the word "rife." Also, see Appendix D for some studies using frequency therapies and Appendix E for information on a medically supervised *in vitro* study using a Bare-Rife machine.

Q. Why don't you discuss [a particular] machine?

- A. There's more equipment on the market than what I could possibly cover. Plus, new units are constantly being manufactured. This is why I discussed *types* of machines at the beginning of this chapter. As for specific equipment, like everyone else I have my personal preferences. Here are several reasons for what I included and what I omitted.

The most obvious reason for some exclusions is lack of quality, in either construction or features. A couple of brands did not deliver precise frequencies, based on reports from impartial engineer colleagues. In some instances, the signal was almost 5 Hz off from what it was supposed to be.

My second reason relates to customer service. Some units may have been adequate, but I wouldn't have known because of the unsatisfactory support. Sometimes the staff was very rude. In a couple of cases, the support was non-existent.

Three, I didn't want to include equipment that in my opinion was promoted via misleading or deceptive advertising. That said, unfortunately I was obliged to make allowances for companies whose marketing was "only" *somewhat* suspect—companies whose equipment is popular among rifers. Sadly, very few frequency device manufacturers are scientists; and even well-meaning vendors make technical mistakes when advertising their wares or comparing their equipment to that of other manufacturers. At times, I had to make difficult decisions about machines whose promotional literature straddled the line between accurate and

questionable. My priority has always been to be as factual and precise as possible, but I also recognize that perhaps it's expecting too much for manufacturers to be equally meticulous. (My emphasis on details is why *The Rife Handbook* contains more engineering and science details than perhaps some readers would like. However, those who do want the details will be more informed when talking to vendors.)

My final criteria for inclusion was based on ease of operation. When this book was almost completed, a new unit was marketed that became popular in a small but growing circle of rifiers. However, its software is very complex and extremely difficult to operate for the average person. In the twenty years that I have written about Rife Therapy, I have communicated with thousands of sick people and have learned what their capabilities and needs are. Despite the low price of this new unit and reported successes, very ill people—and even their friends and family members who aren't ill—don't have the energy, time, or brain power to learn how to operate complicated equipment. They feel intimidated by the technology's complexity, made even more difficult because the company has no phone support, only online support. To me, this is a significant drawback, especially with such a user-unfriendly unit.

Sometimes, my decision not to investigate further was easy. In one case, a manufacturer made astonishing claims about what the equipment could do. The seller even implied that it would no longer be necessary to consult a physician because the machine could “cure” any condition. This advice is not only illegal, it's dangerous. I would never tell anyone not to see a qualified health practitioner. Admittedly, this is an extreme example, and very atypical of frequency unit companies—but it can (and did) happen.

I wasn't completely satisfied with every machine I reviewed. (Besides, there's always room for improvement, even with good equipment.) However, now that you have completed this chapter you have an idea what to ask manufacturers and sellers so that, as an informed consumer, you can make the best choices for yourself. My hope is that as this technology becomes more publicized—and thus more in demand and easier to produce—better and less expensive equipment will be built, leading to more competition in the marketplace.

Q. Why don't you, the author, manufacture or sell frequency devices?

- A.** In the United States, it's against the law to sell a device, supplement, or other item that claims to treat

a specific medical condition if the product has not been accepted by the FDA for medical use. The labels and literature for these items are very tightly regulated as well. The manufacturer is instructed in detail about what information is allowed to accompany the device or supplement. This *Rife Handbook* explicitly describes medical uses for a device that isn't medically approved by the FDA. If I manufactured or sold frequency devices, this *Handbook* could easily be construed as medical literature that makes illegal claims about frequency equipment. Because of that, I could be arrested, fined, and even sent to jail.

One way in which the seller or manufacturer can avoid making what might be construed as a medical claim—but which gives the consumer access to information—is to have a third party write the literature. This strategy is often used by manufacturers of nutritional supplements. Authors not affiliated with the manufacturer write about the product, thereby allowing the consumer to learn about the product without making the manufacturer liable for breaking the law. In today's restrictive atmosphere, third-party literature is the best way to provide much-needed information to the public.

Finally, there's a personal reason that I don't sell Rife Therapy equipment. Selling is one of my least favorite activities. In fact, I detest it. My passions are writing and educating. Also, if I am not financially invested in a unit, I can be objective in my research.

Q. How can I learn more about Rife Therapy?

- A.** See Appendix A for sources of frequency machines, books, DVDs, Internet chat groups, and websites. See Appendix D for published studies describing the use of frequencies to treat infections and degenerative diseases. See Appendix E for an *in vitro* study on how a Bare-Rife machine can destroy leukemia cells. My website, nenahsilver.com (or rifehandbook.com), will periodically contain new developments. Also do Internet searches on a regular basis.



Now that you understand how Rife Therapy works, please review the following Insert, “A Short Course on How to Give Yourself a Rife Session.” This will help you experiment responsibly. Then, before you use the frequencies listed in Chapter 5 (the Frequency Directory), please read, at the beginning of the chapter, how the symptom pictures are organized so you can obtain maximum benefit from using the Directory.

A Short Course on How to Give Yourself a Rife Session

Part I. The Basics

1. **Study the contraindications!** This therapy may need to be modified or avoided entirely—or done with only certain types of equipment—if you have a heart condition or organ transplant, are wearing a pacemaker or other electronic implant, are pregnant, are nursing, have blood clots, are taking strong medications such as chemo, are taking herbs, are wearing metal implants or stents, or are especially sensitive to radio frequency (RF) or other electromagnetic radiation. Please review all the details at the beginning of Chapter 4 to make sure you are qualified for this therapy and are using the equipment that's right for you.
 2. **Make sure your immune response and organs of elimination and detoxification are functioning.** Most people experience die-off symptoms as the pathogens are disabled or killed. Organs of waste processing and disposal include the colon, kidneys, liver, lungs, and lymph. If these become overloaded, waste materials may exit through the skin. If you have questions about your ability to detoxify, please consult a qualified health practitioner.
 3. **Read the operator's manual and run the unit through all of its steps before your session.** Make sure that the unit is plugged into the wall and turned on. A surge protector will protect your valuable equipment from power spikes and blowouts, which can occur during electrical storms or periods of erratic electricity output. Consult your vendor about the assembly or operation of the unit.
 4. **Write down your complete health history, listing all symptoms.** This always consists of acute (recent-onset) and chronic (longstanding) conditions. However, this also includes conditions you've had for so long, you've resigned yourself to them as inevitable, unimportant, or even normal. Record these too, because continual symptoms can provide clues about which frequencies are most needed. Some pathogens can linger in the body for years, and ailments not treated immediately can escalate into other conditions. Visualize—and expect!—the best possible results. This will not only help you devise an effective protocol, it will also stimulate your immune cells.
 5. **Obtain a medical diagnosis and lab results if possible.** That said, sometimes a doctor does not order all the necessary tests, or misreads the results of those tests that are conducted. Also, your doctor does not live in your body. To complement a doctor's diagnosis, do your own research, and use common sense and intuition.
 6. **Determine which diagnosis, or which symptoms, are the most severe or dangerous. These require priority attention.**
 7. **Look up the frequencies for your condition and/or relevant pathogens, and write them down. To select the best and most relevant frequencies:**
 - ◆ *If you have a diagnosis or already know what's ailing you,* go to the appropriate listing in Chapter 5. In addition to the supplemental material in Chapter 5, you may further consult a medical textbook, Internet medical databases, etc. Diseases are named according to either the pathogen involved, the body part that's affected, the symptoms, or occasionally the name of the person who "discovered" the disease. Sometimes the same disease is given different names in different countries.
 - ◆ *If you don't have a diagnosis,* make a list of every disease to which your condition is similar. Or, write down every body part that is affected by the condition, and in what way. By experimenting with different frequency sets and observing how you feel during and after each session, you'll know which frequencies are targeting your problem.
- Important:** Don't dismiss using a particular frequency just because you have only a few symptoms! Also, some frequencies work for a wide range of ailments. Pathogens can be involved in ulcers, Multiple Sclerosis, kidney stones, and even fibromyalgia. Be aware that rifting for one condition may help other conditions you might not have thought were related, because the same microorganisms are implicated in many disease pictures. Finally, consider other options. For example, someone medically diagnosed with a brain tumor got no results using brain tumor frequencies. But when she tried frequencies for meningitis and encephalitis (both also disorders of the brain), she reversed her symptoms.

8. **Program the frequencies into the unit.** If your machine is created in such a way—either with lots of power, shape of the wave, or other configuration—that ensures the signal will be very easily accepted by the body, use each frequency for 1 to 3 minutes. This is a general guideline, however; it varies according to the individual and the ailment. For example, If your machine isn't very powerful, if you're using electrodes, and / or if you need a particular frequency for a long period of time—as when dealing with cancer or severe or chronic pain—a frequency may be run from 10 minutes to 2 hours. People with Lyme may need to begin with just 30 seconds per frequency, or even only 10 seconds per frequency each day. On the other extreme, people with cancer generally require sessions from 1½ to 2½ hours daily. Also with cancer, running a single frequency for one to two hours is common.

9. **Use the gate and sweep functions if your machine has them.** To prevent pathogens and the body from becoming resistant to a steady signal, gate and sweep to bypass the resistance.

- ◆ *Gating* (sometimes called “pulsing”) puts a sharp point or spike onto a square wave, which drives the wave more suddenly and forcefully into the body without harming the human or animal host. This feature enhances the penetration power of a frequency, and compensates for the possible resistance of the pathogens and the body to the signal.
- ◆ *Sweeping* introduces one or more extra frequencies on either side or both sides of the main signal or “target” frequency, to compensate for any variations in the Mortal Oscillatory Rate and thus ensure that you are devitalizing all of the pathogens. With a sweep, any stray microorganism oscillating outside of the usual range will be caught.
- ◆ *Converging* is a type of fancy sweep. With 2004 as the main or target frequency, here is an example of a converge: 2002, 2006, 2003, 2005, 2004. The frequencies around the target frequency not only are covered, they are also administered in an asymmetrical way to prevent the pathogens from easily adapting to what would otherwise be the same-pattern signal. Some experienced rifers feel that doing a convergent group of frequencies may be more effective than administering straight frequencies or even sweeping.

10. **In preparation for, during, and just after your rifting session:**

- ◆ Before your session, eat lightly rather than a large meal, as the microbial die-off might make you feel nauseated.
- ◆ Wear loose-fitting clothes so you can relax.
- ◆ Remove all jewelry and metal if you're using a contact device.
- ◆ Keep the room at a comfortable temperature, with a blanket nearby.
- ◆ Dim the lights.
- ◆ Place your frequency device at the appropriate distance from you if it uses a freestanding radiant plasma tube instead of contact electrodes. Consult the manufacturer if you're not sure where to put the machine.
- ◆ Sit or (preferably) lie down.
- ◆ Drink water containing either chlorophyll, electrolyte minerals, fresh lemon juice, or Vitamin C powder. This should be before, during, and immediately after the session.
- ◆ Don't engage in stressful activity, as your body needs this time to heal. If you watch TV or a movie, choose something optimistic and uplifting, not pessimistic and depressing. Depictions of violence and unethical behavior weaken the immune response, whereas portrayals of caring relationships and positive situations (such as characters taking charge of their own lives) strengthen the immune response.
- ◆ Try not to use the machine after about 4:00 p.m. Evening is a time to prepare for sleep, and the energy from rifting may keep you awake. Also, drinking is required during and after rifting. If you drink just before going to bed, you'll have to interrupt your sleep to get up to pee. And if you rife without drinking, you may have a toxic headache or other unpleasant reactions the next day.

11. **For most conditions:** A general rule for *most conditions* (but *not* for cancer or Lyme; see below) is: If you feel better the next day, do another session. If you feel a bit worse, do another session. If you feel a lot worse and dysfunctional, there may be heavy microbial die-off; so follow detoxification protocols, and wait until you feel better enough again to do another session. Repeat sessions until symptoms abate.

12. **For cancer:** This condition usually requires an aggressive approach. Depending on the guidance from your health practitioner and even the equipment you're using, the following guidelines may need to be modified.
- ◆ Use organ support frequencies daily.
 - ◆ Spend from 1½ to 2½ hours for each session. Some people do 2 sessions per day.
 - ◆ There are two major frequencies that everyone needs that should be used every day. See Chapter 5, **Cancer**, for more information.
 - ◆ Each frequency is run for about 3 minutes, based on the penetration power of the average unit. But sometimes a frequency needs to be run for 5, 15, 30 or even 60 minutes. And some rifiers use a single frequency for 2 hours, with excellent results. It depends on your situation.
 - ◆ Researchers discovered that the lower hertz (Hz) frequencies work well for most conditions, but cancer *might* be better managed by the higher megahertz (MHz) frequencies. Use a machine that can transmit in this range so you can use Rife's original frequencies (or revised numbers close to them), and / or the laboratory-tested cancer frequencies from Jimmie Holman. If your machine can't reach that high, set it to transmit a square wave, whose higher harmonics will give you some benefits of a higher main frequency.
 - ◆ Some researchers suggest that if you have too many frequencies to fit into one day, create two days of programming and alternate the programs every other day. This is not optimal.
 - ◆ If you feel a lot worse after a session, this may indicate microbial die-off. Do detox protocols.
 - ◆ Rifting intensifies the effects of chemo. If you do both, your liver and kidneys could be overwhelmed with poisons. Consult a doctor knowledgeable about Rife Therapy. Some people undergoing chemo stop the sessions until a few days afterwards, but this may make your condition worse and isn't recommended.
 - ◆ Most people feel better within a month, and sometimes within days. If you don't notice any change after several weeks of sessions, consult a practitioner who can monitor your condition. Also, consider changing your protocol and adding more complementary therapies (reread Chapter 5, **Cancer**).
- ◆ Some people use two rife machines at the same time. See Chapter 5, **Cancer**.
 - ◆ Even after they are feeling better, most people give themselves at least one session per day for about 4 to 6 months. This ensures that the cancer will not return.
13. **For Lyme disease:** Of all the infectious conditions, Lyme is one of the most difficult to treat. You must closely monitor your body and responses to know when to focus on Lyme, on co-infections, or on restoring the body (such as addressing adrenal fatigue and/or replenishing nutrients) independent of disabling pathogens. The enormous amount of die-off from microbial waste—plus the body's depletion and weakened state of mind—make it necessary to start sessions with less time per frequency and more time between sessions. When first rifting, do no more than 1 minute per frequency. Leave enough time between sessions (at least 2 to 3 days) to recover.
14. **Write down your responses to all of the frequencies used in the session, whether positive, negative or neutral.** A written record of your physical, mental and emotional responses can help determine which frequencies were *hits* (produced a discernible response), and which frequencies did not work. This record will also help you plan a long term health protocol. In addition, your reports may be useful to others, should you decide to share your results.
15. **Drink water in sufficient amounts, appropriate to your weight, size and toxicity level.** The water should contain liquid minerals (electrolytes), chlorophyll, Vitamin C, or lemon to make it more assimilable. If you won't drink water, don't give yourself sessions, or you'll risk toxification from the microbial waste that results from the sessions.
16. **Don't interrupt the sessions until you're completely well.** People who take a break from rifting before their illness is completely gone may experience a recurrence. Sometimes, the frequencies they were using no longer work for them because the pathogens have developed a resistance to the frequencies. Be persistent about continuing with your program, *especially if you have cancer, Lyme, or a hard-to-treat condition.*



Continue to Part II

Part II. Troubleshooting

Let's assume that:

(a) Your unit is working properly.

(b) The signal is being received by the body.

(c) You have done everything suggested in Part I.

People are biochemically and physiologically unique. Differences in water, fat, and muscle content and density may cause your body to process the frequencies differently than the body of someone else. Also your diet, external climate, geographical location, hormone levels, electropollution, and even phases of the moon may cause the pathogens to mutate slightly and behave in unpredictable ways, leading to unexpected frequency variations. If you are still not achieving the desired results or your condition worsens, see a health practitioner. Meanwhile, try the following:

1. **Do longer sessions.** You may need to spend more time per frequency, or do additional frequencies. Some people find relief running one frequency for 45 minutes or longer.
2. **Use different frequencies.** Not only can pathogens undergo changes (mentioned at the top of this page), but for any given condition—such as a respiratory infection, dental infection or even arthritis—any number of two dozen possible microbes might be involved. Consider all possibilities, including the chance that if you received a medical diagnosis, it may be incorrect. You may want to use a custom frequency service (see Appendix A).
3. **Drink more mineralized water.** If wastes are accumulating faster than the body can eliminate them, water will dilute the toxins to a more manageable level.
4. **Heal your adrenals.** Adrenal hyperactivity or exhaustion can halt your progress. In many cases, it can cause normally helpful therapies not to work, or to have unexpected or opposite effects.
5. **Make sure that your thyroid gland is working properly, and that your cells are absorbing adequate amounts of thyroid hormone.** Hypothyroidism—either from insufficient hormone output by the gland, or the inability of the cells to receive and process the hormone—can exacerbate and cause other conditions, ranging from cancer to fibromyalgia to heart disease. Fifty percent of the North American population likely suffers from hypothyroidism. For more information, see Chapter 5, **Glands, Thyroid**.
6. **Use the regeneration and healing frequencies.** Your system may not be working optimally even if pathogens are not involved. Focus on glandular and organ support. Some frequencies (especially 40K), rather than devitalizing harmful microbes, stimulate the body's cells to repair and regenerate. You can run 40K all day if you like.
7. **Run frequencies for Candida and parasites, even if you think you aren't affected.** It's amazing how many conditions are either caused or exacerbated by fungi and parasites.
8. **Run frequencies for Staph and Strep, even if you think you aren't affected.** Many people have subclinical levels of these bacteria yet are asymptomatic. Or, symptoms they've learned to live with are due to the presence of these pathogens. Rifer and nutritionist Dr. Richard Loyd has discovered that with a surprisingly large number of people, even moderate levels of *Staph* and *Strep* in the body prevent correctly targeted frequencies for other conditions from working.
9. **Run frequencies for mold and mold toxins, even if you think you aren't affected.** One-quarter of the population cannot eliminate mold toxins, whose buildup in the body can impair progress no matter what other protocols are used. See Chapter 5 for details.
10. **Run frequencies for toxicity due to chemicals, heavy metals, and drugs.** All illnesses—including cancers, neurological disorders (Multiple Sclerosis, Alzheimer's, etc.) and respiratory problems—are caused or exacerbated by chemical poisoning. Contaminants are in our air, food, water, vehicle and factory exhaust, cosmetics, cleaners, carpets, construction materials, and more. Make your personal environment free of chemicals.
11. **Eliminate gluten and dairy from the diet.** Gluten damages the lining of the gut and can cause brain fog. In some individuals, it causes immune malfunction. For some, dairy has similar effects. See Chapter 4, **Food**.
12. **Use detoxification protocols for the liver, colon, and perhaps the kidneys.** Most conditions can be helped by an herbal parasite purge, colonic, sauna, or chelation to eliminate heavy metals. See Chapter 3, **Detoxification**, and Chapter 5, **Chemical Sensitivity / Poisoning**.
13. **Correct the problems caused by MTHFR.** Nearly half the population suffers from almost unlimited problems due to the inability to synthesize folate. See Chapter 3, **Nutritional Supplements**.

14. **Run frequencies for Lyme, even if you think you aren't affected.** Lyme has become astonishingly prevalent and can mimic so many other disorders that it's worth rifting for it. Lyme is complex and difficult to eradicate. See Chapter 5.
 15. **Eliminate electrosmog.** Harmful electromagnetic fields cause pathogens to proliferate and impair cell function. See Chapter 1, **How We Become Ill**.
 16. **Eliminate silver-mercury amalgam fillings.** The mercury in fillings continually leaks, as vapor, into the mouth. Even at parts per billion (ppb) amounts, mercury is highly toxic! Some homeopathic remedies and electromedical devices can nullify the effects of mercury. You may require chelation (see Chapter 5, **Chemical Sensitivity / Poisoning and Dental**). If possible, get your amalgams removed a holistic dentist.
 17. **Eliminate mouth infection.** The mouth is a potent breeding ground for bacteria and the teeth are connected to every meridian in the body. Thus, "local" infections starting in the mouth can migrate, and cause even apparently unrelated conditions including heart attacks.
 18. **Try Chinese Medicine diagnosis.** There are relationships among all organs, glands and body systems. You might not be able to affect your condition with frequencies specifically for that condition, but focusing on related points may help. For instance, the spleen "controls" the mouth and lymph; so if the spleen has deficient or excess energy, you could have a gum infection or clogged lymph vessels. Similarly, the kidneys "control" bone health; so if the kidneys are weak, you could suffer bone loss (osteoporosis). These relationships may not make sense to the Western mind, but they're still valid. Many acupuncturists obtain excellent results using pad units for hard-to-treat conditions by placing the electrodes at the site of meridians and acupuncture points.
 19. **Reassess your lifestyle: diet, exercise, sleep, stress, and contaminant levels.** Some people use Rife Therapy allopathically: they zap pathogens to eliminate disease without paying attention to what made them ill in the first place. If your diet is high in carbohydrates, sugars and fake food, you'll feed the pathogens. Don't underestimate the importance of food in becoming and remaining healthy. Similarly, if you don't get enough sleep or the proper exercise, and don't manage stress, you may remain ill. See Chapter 1, **How We Become Ill**, and Chapter 3.
 20. **Eliminate radiation stress.** Everyone on the planet is affected by high levels of radioactivity. See Chapter 3, **Detoxification**, for details.
 21. **Try other therapies.** If you're drinking enough mineralized water (and are using the correct frequencies) and you feel fatigued, congested, nauseated, thirsty, and/or have flu-like symptoms, try some protocols discussed in Chapter 3, **Detoxification**. If you're still not getting the results you want, consider adding another option such as Spectro-Chrome color therapy. Rife technology is compatible with virtually all holistic modalities. It has been used somewhat less successfully in conjunction with allopathic medicine (drugs), although people do combine rifting and medically necessary surgery with good results.
 22. **Learn to release, manage and make peace with your emotions, and eliminate any beliefs that may contribute to being ill.** Some frequencies provide relief from emotions such as anger. This makes sense, because microorganisms constantly excrete poisonous wastes that cross the blood-brain barrier and damage the brain. The brain is the primary organ of emotions, perception, sensory input, motor function, and cognition. Therefore, toxins can affect mood, motor coordination and the ability to think, as well as exacerbate or outright cause numerous neurological disorders. Approaching emotional and mental issues from a psychological perspective is important too. See Chapter 3 and Appendix A for more information on some easy-to-use, self-help therapies.
 23. **Be aware that there are some conditions that rifting may not be able to correct.** These include permanent damage caused by nutritional deficiencies, damage due to drugs or toxic chemicals, severe trauma due to surgery or mechanical injury, and damage due to the effects of electromagnetic radiation as long as the radiation continues to exist. However, it can't hurt to try. Some of the frequencies may at least help regenerate tissue or alleviate pain.
- If you have a medical condition, consult a qualified professional. If you are rifting, find someone familiar with Rife Therapy, such as a naturopath, chiropractor, osteopath, herbalist, acupuncturist, or holistic physician.*



ENDNOTES

Chapter 4

ALL ABOUT FREQUENCY DEVICES
AND RIFE SESSIONS

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Some patients, though conscious that their condition is perilous, recover their health simply through their contentment with the goodness of the physician.

— HIPPOCRATES, “FATHER OF MEDICINE” GREEK PHYSICIAN (460–400 BC)

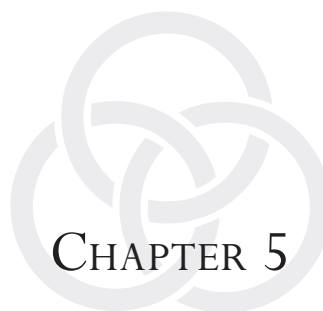


Chapter 5 Outline Frequency Directory

This outline does *not* include single, stand-alone entries, which are in alphabetical order.

Arthritis	610	Ears	708
Bacteria	615	Eyes	711
Blood Sugar Problems	643	Gastrointestinal Tract	717
Bone and Skeleton	645	<i>Systemic Conditions</i>	718
Brain and Nervous System, Mind and Emotions	648	<i>Colon / Large Intestine</i>	721
Cancer	669	<i>Small Intestine</i>	726
Candida, Fungi, Molds and Yeasts	684	<i>Stomach and Esophagus</i>	727
Chemical Sensitivity / Poisoning	696	Glands	730
Dental	701	<i>Adrenals</i>	730
<i>Mouth and Gums</i>	702	<i>Pancreas</i>	733
<i>Teeth</i>	705	<i>Parathyroid</i>	733
		<i>Pineal</i>	734
		<i>Pituitary</i>	734
		<i>Thymus</i>	734
		<i>Thyroid</i>	734
		Headache	741

Heart, Blood and Circulation	741	Respiratory Tract	796
Injuries	750	<i>Lungs</i>	796
Insect Bites	752	<i>Nose and Sinuses</i>	800
Liver and Gallbladder	755	<i>Throat and Lymph Nodes</i>	801
<i>Liver</i>	755	<i>Vocal Cords</i>	803
<i>Gallbladder</i>	760	Skin	807
Lymphatic System	761	Tuberculosis, All Types	817
Men	764	Tumors, Benign	818
<i>Penis</i>	764	Urinary Tract	819
<i>Prostate</i>	765	<i>Bladder and Urethra</i>	819
<i>Sexual Function</i>	766	<i>Kidneys</i>	821
<i>Testicles</i>	766	Viruses	823
<i>Urinary</i>	767	Women	840
Muscles	772	<i>Breasts</i>	841
Parasites, Protozoa and Worms	779	<i>Menstruation and Menopause</i>	841
Regeneration and Healing	793	<i>Sexual Function</i>	842
		<i>Uterus, Cervix, Ovaries</i> <i>and Fallopian Tubes</i>	843
		<i>Vagina, Labia and Clitoris</i>	844



CHAPTER 5

Frequency Directory

GETTING STARTED—READ THIS FIRST!

These next few pages are critical. They describe how the Frequency Directory is organized. At the end of the instructions is an outline of all the categories contained in the Frequency Directory.

Every entry in this Directory is in alphabetical order. In straight alphabetical order you will find:

1. The *pathogen* involved in the symptom picture. For example: **ENTAMOEBA HISTOLYTICA**, the parasite that causes amoebic dysentery, is under **E**.
2. A *general symptom*. For example: **DIARRHEA** (which might or might not be a symptom of amoebic dysentery caused by *Entamoeba histolytica*), is under **D**.
3. The *medical term for the disease*. For example: **AMOEBC DYSENTERY** is under **A**.

Exception: The medical term for a disease will *not* be listed separately when the disease name derives from the pathogen itself. For example, “Borreliosis” designates the disease caused by any number of *Borrelia* bacterial strains. The alphabetical listing therefore contains both terms:

Borrelia, all types / **Borreliosis**

Most of the time, after you find an alphabetical listing you’ll be told to see the entry under a specific category (discussed in a moment).

THE CATEGORIES

An alphabetical listing will sometimes be self-contained and complete entry if a condition cannot be easily classified.

- ◆ **Example #1: PRIONS / AMYLOIDOSIS**
- ◆ **Example #2: FIBROMYALGIA**
- ◆ **Example #3: CALCIUM METABOLISM AND UTILIZATION, TO IMPROVE**

The above examples are not typical, however. Usually, when you reach the alphabetized term you’ll be directed to the appropriate category to obtain the complete listing. A complete listing consists of descriptive text—origin of the condition, who is most susceptible to the condition, co-infections that might occur with the main condition you’re addressing, complementary therapies—and, of course, the frequencies for that condition.

Most of what you’re looking for will be found under one of four possible categories:

1. *Pathogen*
2. *Affected Body Part or Body System*
3. *Common Name of Condition*
4. *Stand-Alone Entry*

Each is discussed on the following pages.

1. **Pathogen.** Whenever possible, each disease is linked to a particular pathogen or pathogens. The harmful microbes appear under one of the following:

- a. **BACTERIA**
- b. **CANDIDA, FUNGI, MOLDS AND YEASTS**
- c. **PARASITES, PROTOZOA AND WORMS**
- d. **VIRUSES**

In these pathogen categories, entries are listed first with the name of the pathogen, then with the medical name for the disease, and then with the common name(s) of the disease, if there are any.

- ◆ **Example #1:** You are looking up **LYME DISEASE** in alphabetical order. So you go to **L**. You see:

LYME DISEASE

See “*Borrelia*, all types / Borreliosis / Lyme Disease” under **BACTERIA**.

If you’re accustomed to calling Lyme by either the name of one of its strains, *Borrelia burgdorferi*, or the medical term “Borreliosis,” you go to **B**. There, you are directed to the listing for the pathogen:

BORRELIA, ALL TYPES / BORRELIOSIS

See under **BACTERIA**.

- ◆ **Example #2:** You are looking up a specific pathogen, *Herpes zoster*, in alphabetical order. So you go to **H**. You see:

HERPES, ALL TYPES

See under **VIRUSES**.

The **VIRUSES** section has a general *Herpes* section, which is further subdivided into the various *Herpes* viruses, each of which is responsible for different symptoms (usually in different areas of the body).

- ◆ **Example #3:** You are looking up the disease Shingles in alphabetical order. So you go to **S**. You see:

SHINGLES

See under **SKIN**, under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**, or see “*Herpes Virus Type 3 / Herpes zoster / Chicken Pox / Varicella / Shingles*” under **VIRUSES, Herpes, all types**.

The *Herpes zoster* virus that causes Shingles is listed in three places: (1) large category of **VIRUSES** and its subcategory “*Herpes, all types*”; (2) category of affected body part **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**; (3) category of affected body part **SKIN**.

2. **Affected Body Part or Body System.** The majority of all entries in the Frequency Directory are listed according to where the symptoms appear, such as:

- ◆ **BONE AND SKELETON**
- ◆ **GASTROINTESTINAL TRACT**
- ◆ **GLANDS**
- ◆ **MEN** (body parts specific to men)
- ◆ **MUSCLES**
- ◆ **RESPIRATORY TRACT**
- ◆ **URINARY TRACT**
- ◆ **WOMEN** (body parts specific to women)
- . . . etc.

Some of the body part categories are further divided into subcategories. For example:

- ◆ **GASTROINTESTINAL TRACT**
 - Systemic Conditions*
 - Colon / Large Intestine*
 - Small Intestine*
 - Stomach and Esophagus*
- ◆ **GLANDS**
 - Adrenals*
 - Pancreas*
 - Parathyroid*
 - Pineal*
 - Pituitary*
 - Thymus*
 - Thyroid*

You will find it very useful to look for frequencies according to the body part or system that’s affected, because when browsing, you may find other frequencies that apply to your situation.

- ◆ **Example #1:** For **DUODENITIS**, go to **D**. You’ll see:

DUODENITIS

See under **GASTROINTESTINAL TRACT, Small Intestine**.

- ◆ **Example #2:** For **CROHN’S DISEASE**, go to **C**. You’ll see:

CROHN’S DISEASE

See under **GASTROINTESTINAL TRACT, Colon / Large Intestine**.

Cancer is an exception. All cancers, no matter what part of the body they appear in, are listed under **CANCER** because cancer is a life-threatening condition that can migrate, and the protocol for all types is basically the same.

3. **Common Name of Condition.** Some conditions are listed *solely* as generic terms or symptoms. For example:

- ◆ INJURIES
- ◆ INSECT BITES
- ◆ TUMORS, BENIGN . . . and so on.

4. **Stand-Alone Entry.** A few entries that are not easily classified under other categories appear alphabetically as self-contained, stand-alone entries.

- ◆ **Example:** For **PRIONS / AMYLOIDOSIS**, go to **P** where it's listed in alphabetical order. This is the only place in which it appears.

EXPLANATORY TEXT IN EACH ENTRY

Each complete entry—in other words, an entry that's not simply a redirect line—contains many possible names for a condition, a description of symptoms, and the frequencies that eliminate or manage the symptom picture. Many entries also summarize how the pathogen is transmitted, and suggest therapies that complement rife sessions or can be used by themselves if you don't have a rife machine.

DIFFERENT FREQUENCY POSSIBILITIES

In most cases, the frequencies are listed from the lowest to the highest.

Many of the entries are divided into several sets.

1. The first frequency sets in an entry consist of the numbers that the majority of experimenters find most useful for that condition. *Frequencies associated with known experienced researchers are considered primary.* It will be stated when the numbers come from such sources (John Garvey, Richard Loyd, Jeff Sutherland, Jimmie Holman, and others). The exception to this “known experimenters come first” rule is the Hulda Clark frequencies. Due to the complexity of her listings, her data is usually listed last.
2. Subsequent frequency sets (if any appear) may be for related conditions, possibly relating to co-infections.
3. More frequency sets (if they appear) might or might not be helpful. They might devitalize pathogens, or prove helpful to the body in other ways such as tissue rejuvenation or some other effect or benefit.

ABBREVIATIONS, NUMBERS, PUNCTUATION

Hertz. Abbreviated **Hz**. Each Hz is one cycle per second. *Relation to frequency numbers:* Most of the numbers designating frequencies are in Hz. For example:

464 is 464 Hz
522 is 522 Hz
2008 is 2008 Hz

Kilohertz. Abbreviated **KHz**. “Thousands of hertz.”

When you see a “K” after a number, add three zeros: 000.

5K = 5000 Hz
10K = 10000 Hz
20K = 20000 Hz
40K = 40000 Hz

When a plus sign (+) is present. Sometimes a plus sign connects several numbers. In the 1980s, a Rife researcher advised running numbers together, connected by a plus sign, in the same session based on the theory that they worked synergistically. *If you find that you don't need all the numbers in the group, don't use them.*

When a decimal point—punctuation that looks like a period or dot (.)—exists within a number. (This is *different* from the system, used in many European countries, that depicts commas instead of periods or dots for decimal points.)

Some frequencies may contain more than one decimal place. Decimals are important, so use them if possible. If your unit can't handle decimals, program a sweep. For example: If your unit can output 9 or 10 but not 9.6, sweep from 9 to 10, which will cover 9.6. Allow extra time for a sweep to ensure that your equipment will dwell for a long enough time on 9.6 to accomplish your goal.

When a comma (,) is present. A comma separates each frequency from the next when used *between* numbers. Ordinarily, the comma is *not* part of a number. Therefore, rifiers in Europe who use commas instead of periods to indicate decimals, should note that the comma does *not* indicate a decimal. A comma is part of a number *only* when the frequency is in the millions of hertz and there is a *semicolon* between each frequency (see below).

When a semicolon (;) is present. Some entries contain frequencies in the millions of hertz. Occasionally, one of these numbers can be easier to read if it contains commas. In such a case, a *semicolon* instead of a comma is used *to separate each individual frequency*.

LENGTH OF TIME FOR EACH FREQUENCY

The usual amount of time for each frequency is 3 minutes, unless otherwise specified. However, different machines have different penetration power and each user has different needs. Thus, some equipment may require less or more time. Experiment to see what works best for you.

THE SCOON AND HOLLAND EFFECTS

After experimenting with more effective ways to deliver frequencies, Dr. Richard Loyd devised the following, named after prominent Rife researchers:

- ◆ **The Scoon Effect.** You'll need either two radiant plasma units, or the Atelier Robin F165 electrode device, which can run two frequencies simultaneously. All equipment must be able to output frequencies to at least one decimal point place. On one plasma unit, run the main frequency and on the other plasma unit, run a secondary frequency 1 Hz above the primary frequency. On the F165 frequency generator, run both frequencies. (Example: 727 Hz and 728 Hz, at the same time.)
- ◆ **The Holland Effect.** Using two radiant plasma units, run the primary frequency on one and on the other, the 11th harmonic of the primary frequency. (Example: 1000 Hz and 11,000 Hz at the same time.)

MANY FREQUENCIES ARE EXPERIMENTAL

When you see entries that contain long lists of frequencies, it's easy to become overwhelmed. Remember that some of these numbers are *experimental*. Some rifers have found them helpful, while others haven't noticed many (or any) significant benefits. These numbers must be considered possibilities rather than definites. The exceptions are those frequencies that were calculated by Royal Rife himself; or in a laboratory using methods similar to those used by Rife; or by researchers who counted the increase or decrease in pathogens after the colonies were exposed to the frequency fields. Some of the numbers were calculated with mathematical formulas, using measurements derived from the pathogens themselves. Still other numbers—found to be surprisingly accurate—were obtained through dowsing or muscle testing (see Chapter 4).

Keep in mind, however, that the most accurate lab-tested frequencies might not work for you if your equipment's signal does not penetrate the body. Even if it does, there may be mutations in the pathogen—depending on the terrain (you), which includes the larger environment (climate and geography). Focus on *how you feel* after your session. “Experimental” means: You observe. You change your approach when necessary. And you keep learning. These frequencies are guidelines only, starting points.

BEING LINEAR ABOUT A HOLISTIC SYSTEM

Cataloguing illness and wellness in creating this chapter presented some challenges. Establishment medicine teaches us that such-and-such a pathogen “causes” such-and-such a disease. Yet why do some people become ill from a pathogen while others, living in the same environment or neighborhood or even home, don't? The bodily terrain is heavily influenced by the foods we eat, our level of exercise, our attitudes, our emotions—even the intangibles we inherited from our ancestors. These, and more, play a huge role in determining why some people and not others get sick. On the other hand, so many volatile microorganisms (including genetically engineered superbugs) have appeared since Royal Rife's time that even mentally and physically well-balanced people can become ill. So, on some levels, a cause-and-effect relationship between microorganisms and disease cannot be denied.

My use of the word “cause” to link a pathogen to a disease is not meant to deny the many factors involved in health (or deny our ability to heal). The word “cause” also saves a lot of space. So, when I say that a pathogen “causes” instead of “is implicated in” a disease, understand that I am making a shorthand report within a very narrow paradigm.

Classifying microorganisms is much harder than you might think. Due to their pleomorphism, the divisions between bacteria, fungi and viruses—some of which behave and appear in ways that defy their own categories—is sometimes a struggle even for experienced pathologists. Nonetheless, conventional labeling systems are still useful.

I also found it difficult at times to organize the body. For example, the immune system was once regarded as comprised solely of the immune cell factories: the lymph nodes, the thymus, and the bone marrow. But hormones formerly regarded as immune-related are now exceeding their boundaries. Where exactly *is* the immune system? The entire body is an immune system! This is why I refer to immune *response*, immune *function*, immune *cells*.

The heart was challenging, too. It is well known that the heart is an organ. But this organ is also comprised of muscle fiber. Plus, recent research has shown that the heart secretes a hormone, thus sharing some characteristics with endocrine glands. Not only that, 65% of the heart contains nerve cells that are receptive to neurotransmitters—which we used to think belonged only in the brain! How, then, should the heart be classified? A similar conundrum exists with bone and fat cells. Scientists have discovered that both these types of tissue secrete hormones (again, the former province of the endocrine system). And many of us already know that the gut produces and responds to neurotransmitters—which once we believed were unique to brain function. What on earth is going on?

The takeaway? Human beings are difficult to classify. We are so much more than the sum of our body's cells, systems, biochemicals and electrical impulses—or even the pathogens that inhabit us, no matter how many there are.

OUTLINE OF CATEGORIES IN THIS FREQUENCY DIRECTORY

Here again is the list of categories—without the page numbers,
in the same typeface as it appears in the text.

This list does *not* include single, stand-alone entries, which are in alphabetical order.

ARTHRITIS

BACTERIA

BLOOD SUGAR PROBLEMS

BONE AND SKELETON

BRAIN AND NERVOUS SYSTEM,

MIND AND EMOTIONS

CANCER

CANDIDA, FUNGI, MOLDS AND YEASTS

CHEMICAL SENSITIVITY / POISONING

DENTAL

Mouth and Gums

Teeth

EARS

EYES

GASTROINTESTINAL TRACT

Systemic Conditions

Colon / Large Intestine

Small Intestine

Stomach and Esophagus

GLANDS

Adrenals

Pancreas

Parathyroid

Pineal

Pituitary

Thymus

Thyroid

HEADACHE

HEART, BLOOD AND CIRCULATION

INJURIES

INSECT BITES

LIVER AND GALLBLADDER

Liver

Gallbladder

LYMPHATIC SYSTEM

MEN

Penis

Prostate

Sexual Function

Testicles

Urinary

MUSCLES

PARASITES, PROTOZOA AND WORMS

REGENERATION AND HEALING

RESPIRATORY TRACT

Lungs

Nose and Sinuses

Throat and Lymph Nodes

Vocal Cords

SKIN

TUBERCULOSIS, ALL TYPES

TUMORS, BENIGN

URINARY TRACT

Bladder and Urethra

Kidneys

VIRUSES

WOMEN

Breasts

Menstruation and Menopause

Sexual Function

Uterus, Cervix, Ovaries and Fallopian Tubes

Vagina, Labia and Clitoris

You now have all the tools you need
to use this Frequency Directory effectively.
Please refer to the beginner guidelines again as needed.

Also, before you begin, please review
“A Short Course on How to Give Yourself a Rife Session”
at the end of Chapter 4.

—A—

ABDOMINAL INFLAMMATION, PAIN, AND INFECTIONS

See all abdominal conditions under **GASTROINTESTINAL TRACT**, *Colon / Large Intestine*.

ABSCESS, GENERAL

Cavity formed by the disintegration of tissue, which creates pus, an accumulation of dead white blood cells. This can occur anywhere in the body, including the mouth. Also see **BACTERIA**, “*Staphylococcus pyogenes aureus*,” as this pathogen is a frequent cause of abscesses; and **DENTAL**, *Mouth and Gums*. 190, 428, 444 + 1865, 450, 464, 500, 566, 587, 660 + 690 + 727, 760, 787, 802 + 1550, 880, 2170, 2720

ACANTHAMOEBA KERATITIS

See “*Acanthamoeba castellanii* / Acanthamoeba Keratitis” under **PARASITES, PROTOZOA AND WORMS**.

ACID REFLUX

See under **GASTROINTESTINAL TRACT**, *Stomach and Esophagus*.

ACIDOSIS

Occurs when the kidneys and lungs cannot keep the body’s pH in balance. See a health professional; this condition is more complex than one might think, with many possible causes. It could even be life-threatening.

ACNE

See under **SKIN**.

ACTINOBACILLUS

See under **BACTERIA**.

ACTINOMYCES / ACTINOMYCOSIS, ALL TYPES

See under **BACTERIA**.

ADDICTION TO FOOD, ALCOHOL OR DRUGS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

ADDISON’S DISEASE

See under **GLANDS**, *Adrenals*.

ADENOIDS, SWOLLEN

See under **LYMPHATIC SYSTEM** or **RESPIRATORY TRACT**, *Throat and Lymph Nodes*.

ADENOMA, CERVICAL

See “Cervical Adenoma” under **WOMEN**, *Uterus, Cervix, Ovaries, and Fallopian Tubes*.

ADENOVIRUS, ALL TYPES

See under **VIRUSES**.

ADHESION

See “Adhesion / Scar” under **SKIN**.

ADNEXITIS

See “Fallopian Tube Inflammation / Adnexitis” under **WOMEN**, *Uterus, Cervix, Ovaries and Fallopian Tubes*.

ADRENAL GLAND CONDITIONS

See under **GLANDS**, *Adrenals*.

ADYNAMIA, GERIATRIC

See **FATIGUE, GERIATRIC / ADYNAMIA**.

AFLATOXIN

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

AFRICAN TRYPANOSOMIASIS

See “*Trypanosoma brucei gambiense* / African trypanosomiasis / Sleeping Sickness” under **PARASITES, PROTOZOA AND WORMS**.

AGITATION

See “Akathisia / Agitation” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

AIDS (ACQUIRED IMMUNE DEFICIENCY SYNDROME)

See “HIV (Human Immunodeficiency Virus) / AIDS (Acquired Immune Deficiency Syndrome)” under **VIRUSES**.

AKATHISIA / AGITATION

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

ALCOHOLISM

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

ALLERGIES, GENERAL

The inability of the body to properly assimilate, process, break down, neutralize or excrete an offending substance in the form of a food or airborne plant particle (usually a protein). Symptoms of airborne or foodborne allergy may include a runny nose; red, itchy, watering eyes; sneezing; dark circles under the eyes; headache; hives or other skin rash; digestive distress; and fatigue. Foodborne allergies may additionally cause constipation, diarrhea, gas, and leaky gut.

The body can regard any food as an irritant, but there’s a difference between a genuine food *allergy* and food *intolerance*. True immune-mediated allergies (there are several types) constitute overreaction by the body’s immune cells which, in response to the ingestion of a food or nutrient, mobilize and sometimes even attack the body’s own tissues. A food intolerance (mistakenly called “allergy”) is the inability of the body to absorb or assimilate nutrients from food, usually related to a digestive malfunction. Regardless of the provocation, the body should not be exhibiting these abnormal reactions. Overreactions to nourishing food that’s not spoiled, sprayed with pesticides, or genetically engineered, can be caused by insufficient digestive enzyme production, an overworked liver, infections, or even unbalanced meridians, which cause the body to become stuck in a negative faulty electrical feedback loop. Practitioner-administered Nambudripad’s Allergy Elimination Technique

(NAET) may correct imbalances (see Chapter 3 Insert on page 388, “Food and Nutrient Allergies”). The following protocol can be self-administered: Hold the irritant (“allergan”) close to or against your body while scanning the entire surface of each ear for 30 seconds with a 635–660 nm LED. (A low-power laser will work too, but an LED is safer; see Appendix C.) The ears contain the acupuncture points for the entire body. This will help the body dump toxins. For additional information and other perspectives, see *Food Allergies and Food Intolerance* by Brostoff and Gamlin.

For foodborne allergies, see **GASTROINTESTINAL TRACT, Systemic Conditions; PARASITES, PROTOZOA AND WORMS;** and **CANDIDA, FUNGI, MOLDS AND YEASTS.** For airborne allergies, see **RESPIRATORY TRACT, Nose and Sinuses.** Allergies can also relate to a sluggish liver, so see **LIVER AND GALLBLADDER.** Also see **GLANDS, Adrenals,** which are intimately involved in allergies due to the role these glands play in stress. In the meantime, here are frequencies to try: 30, 33, 254, 303, 330, 430, 470, 484, 610, 620, 624, 644, 646, 690, 727, 740, 742.4, 787, 790, 864, 866, 880, 1234, 1550, 1918, 2213, 2600, 2650, 2900, 2950, 986, 4412, 5148, 7344

Allergy to Dust Mites

Mites live in furniture, drapery, pillows and carpet, and feed on the dead skin cells of humans. Allergies are generally not to the mites themselves but to the large amounts of feces they generate and expel into the air. If these frequencies work, it's unclear whether they kill dust mites or whether they reduce sensitivity to the fecal matter. From Dr. Hulda Clark: 707K or 1752.48 (for units unable to emit KHz)

Allergy to Pollen

Pathogens grow on pollen. Experimental:
116113, 119061.03, 119441.8

Allergy to Ragweed

473

ALTITUDE SICKNESS

Chest pain, weakness, and difficulty breathing resulting from a rapid change in air pressure and oxygen levels. Nitric oxide supplements will help increase circulation.

ALOPECIA

See **HAIR LOSS / ALOPECIA.**

ALS (AMYOTROPHIC LATERAL SCLEROSIS)

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS.**

ALTERNARIA TENUIS

See under **CANDIDA, FUNGI, MOLDS AND YEASTS.**

ALZHEIMER'S DISEASE

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS.**

AMOEBA HEPAR ABSCESS

See under **LIVER AND GALLBLADDER, Liver.**

AMOEBAS, ALL TYPES

See under **PARASITES, PROTOZOA AND WORMS.**

AMOEbic DYSENTERY / DYSENTERY

See “*Entamoeba histolytica* / Amoebic Dysentery” under **GASTROINTESTINAL TRACT, Systemic Conditions** or under **PARASITES, PROTOZOA AND WORMS.**

AMYLOIDOSIS

See **PRIONS / AMYLOIDOSIS.**

AMYOTROPHIC LATERAL SCLEROSIS (ALS)

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS.**

ANAPHYLACTIC SHOCK / ANAPHYLAXIS

See **SERUM SICKNESS / ANAPHYLAXIS / PROTEIN SENSITIZATION.**

ANCYLOSTOMA CANINUM

See under **PARASITES, PROTOZOA AND WORMS.**

ANEMIA, OXYGEN DEFICIENT AND SICKLE CELL

See under **HEART, BLOOD AND CIRCULATION.**

ALUMINUM, DETOXIFYING FROM

See “Mercury, Aluminum, and Other Contaminants” under **CHEMICAL SENSITIVITY / POISONING.**

ANEURYSM

See under **HEART, BLOOD AND CIRCULATION.**

ANGINA PECTORIS

See under **HEART, BLOOD AND CIRCULATION.**

ANKYLOSING SPONDYLITIS

See under **ARTHRITIS.**

ANOSMIA

See “Smell, Loss of / Anosmia” under **RESPIRATORY TRACT, Nose and Sinuses.**

ANTHRAX AND ITS SPORES

See “*Bacillus anthracis* / Anthrax” and “*Bacillus anthracis* Spores” under **BACTERIA.**

ANUS, ITCHING

See under **GASTROINTESTINAL TRACT, Colon / Large Intestine.**

APHTHOVIRUS

See under **VIRUSES.**

APOPLEXY

See “Stroke Paralysis / Apoplexy” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS.**

APPENDICITIS

See under **GASTROINTESTINAL TRACT, Colon / Large Intestine**.

APPETITE, EXCESSIVE OR LACK OF

Appetite abnormalities have several probable, deeper causes. Check for depression and serotonin deficiency. See **BLOOD SUGAR PROBLEMS**; *Candida albicans* under **CANDIDA, FUNGI, MOLDS AND YEASTS**; **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**; **PARASITES, PROTOZOA AND WORMS**; **GLANDS, Thyroid**; and **GLANDS, Adrenals**.

ARM PAIN

See “Neuralgia, Brachial” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

ARTERIAL SPASM

See “Intermittent Claudication” under **HEART, BLOOD AND CIRCULATION**.

ARTERIOSCLEROSIS

See under **HEART, BLOOD AND CIRCULATION**.

ARTERY, DILATION OF

See “Aneurysm” under **HEART, BLOOD AND CIRCULATION**.

ARTHRITIS

Arthritis (sometimes called “arthrosis” or “arthranguia”) simply means “swelling in the joints.” Inflammation and pain are linked to stress and weak immunity. The source of stress could be toxins such as vaccines, emotional distress (often anger), infection, allergies, overweight, excessive or improper use of joints and muscles, poor posture, metabolic imbalance, or injury. Common to all or most of these stressors is waste, which can come from many sources. Just a few sources are vaccines (which contain toxic chemicals and pieces of pathogens that invade the host’s DNA); emotional distress (which causes acidic stress hormones to pour into the blood, on which bacteria feed); or even metabolic imbalances (to preserve the pH integrity of the bloodstream, the body may deposit accumulated wastes in the joints). The injury type of arthritis can result from rupture of a tendon, ligament, muscle, or joint (the rubbery cartilage cushion between bones). Pathogens involved may be those responsible for rheumatic fever, gonorrhea, tuberculosis, or (according to some research) German measles. Some bacteria produce calcium phosphate shells to protect themselves and hide from the host’s immune cells. If these lumps of crystallized calcium lodge in the joints and muscles, we suffer from arthritis.

Even after one recovers from an illness, subclinical levels of harmful microbes may lie dormant, erupting when the systemic terrain is once again favorable to their repopulation. If you feel that you never completely recuperated from a particular illness; if you observed ill effects from vaccines; or if you were vaccinated and felt no ill effects but are still concerned about the possible mutation of the inoculation microbes into more virulent ones, you can use frequencies as a prevention against arthritis.

Avoid fake foods and adulterated dairy (see Chapter 3, **Food**). Eliminate all nightshades (tomatoes, eggplant, white potatoes, tobacco, bell and hot peppers). In some individuals, these plants hinder the metabolism and absorption of calcium and phosphorous, leading to inflammation, muscle spasms, pain, and stiffness due to deposits in connective tissue, damage to ligaments and tendons, mineralization on the walls of major arteries and veins, and changes in bone density. Studies show that over 70% of subjects saw moderate to significant improvement after removing nightshades. If you do eat them, you can minimize their effects by supplementing with calcium, magnesium, and Vitamin K2 during the meal.

When rifting for specific joints, use a pad device. Place electrode patches on either side of the affected area. Also try, for arthritis and any other type of pain, the Magnetex®. The magnetic vortex it creates literally pulls debris out of the tissues (see Appendices A and C for details). Massage only between flare-ups—otherwise, the tissue will become irritated. Moderate exercise grows capillaries and builds circulation. On painful areas, try heat or ice, whichever feels better. Drink plenty of clean water.

Also see **BACTERIA**, “*Mycoplasma*, many types,” as these pathogens have often been found in the blood of people with various forms of arthritis. Worms are implicated in arthritis, so also see, under **PARASITES, PROTOZOA AND WORMS**: “*Ascaris lumbricoides* / Roundworm,” “Hookworm, probably *Necator americanus*,” “*Strongyloides stercoralis* / Threadworm,” and “*Trichinella spiralis* / Trichinosis.” Frequencies alone won’t eliminate worms; so see other modalities (including herbs and color therapy), also in that section. Also see **CARTILAGE PRESERVATION**. And see **VIRUSES**, “*Rubella* / German Measles / 3-Day Measles,” as a high percentage of children with juvenile arthritis may harbor this pathogen.

First try: 2720 (for pain), 40K (for cell restoration).

Then try (from Jimmie Holman. These frequencies may work only on equipment made by Pulsed Technologies): 30720, 30784, 38400, 40K (for as long as desired), 40960, 41600, 43520, 43712, 44032, 46528, 48K, 49024, 49600, 49664, 50368, 51200, 51328, 53248, 56320

Then try (also from Holman): 31539, 32K, 32768, 38461, 38502, 42240, 44160, 46592, 49280, 50816, 51328, 56320, 57344, 58880

Then try (some of these are from Michael Tigchelaar): 1.2 + 250, 1.5 (for 10 minutes), 3 + 230, 7.69, 7.7, 9.39, 9.4, 9.6, 10, 20, 25, 26, 28, 30, 40, 60, 76.9, 80, 93.9, 96, 100, 120 (for 20 minutes), 120, 150, 727, 512, 600 + 625 + 650, 660 + 690 + 727, 683, 688, 766, 770, 776, 787, 802 + 1550, 1664, 800, 880, 962, 1500, 1664, 2720, 3K, 3176, 5K, 10K

Ankylosing Spondylitis / Bechterew’s Disease

A degenerative inflammatory condition of the spine and adjacent soft tissues, and often the hip and shoulder joints, causing pain and sometimes fever, anemia and fatigue.

1.2 + 250, 7.69, 7.7, 10, 28, 35, 60 + 100, 95, 110, 428, 600 + 625 + 650, 680, 660 + 690 + 727, 776, 787, 802 + 1550, 880, 3K, 40K

What Is Arthr-itis?

Medical terms for the layperson

During my first quarter of graduate school, I had to take a course in medical terminology. As I found out early on, chiropractic school was not much different from medical school. We had to learn to diagnose and, interestingly enough, terminology was the key to diagnosis.

One of the first words we learned in that class was the term “-itis.” *Itis* is Latin for “inflammation of.” Other terminology included some words that probably sound familiar to you:

- ◆ *Arthro* means *joint*.
- ◆ *Stoma* means *stomach*.
- ◆ *Bursa* is short for the *fluid-filled sack* in many joints.
- ◆ *Fibro* means *muscle fiber*.
- ◆ *Mya* means *muscle*.
- ◆ *Cepha* means *head*.
- ◆ *Tendons* connect bones.
- ◆ *Ligaments* connect muscles to bones.

My classmates and I often laughed as we learned these words because we realized the vast majority of medical diagnoses weren’t actually “diagnoses” at all, but merely turning the name into Latin or something fancy to impress our patients. It’s also done . . . to make an impact on the patient so they’ll be satisfied they have a diagnosis. So if you’re told you have “arthr-itis,” “tendon-itis,” “burs-itis” or “stomat-itis,” it means your joint, tendon, bursa sack or stomach hurts. Doctors can then follow medical protocol and write a prescription to give you drugs that will hopefully ease the pain.

“Algia” is another interesting one that means *pain*. Therefore, “Cephalgia” is a *headache*. The oft-used diagnosis, “Fibromyalgia,” means *muscle fiber pain*.

There’s one very serious problem with diagnosing: People feel they have a “condition.” Everyone knows, once you have a “condition,” you always have a “condition.” . . . [However,] Arthritis, tendonitis and fibromyalgia are not death sentences. They’re merely Latin terms, combined with fancy medical English phraseologies, for pains doctors don’t understand and conditions for which they have no effective treatment. . . . Most doctors are only diagnosing and treating side effects, not the true cause of the problem. . . .

The most common form [of arthritis that] conventional medicine treats—they refer to it as “old age” arthritis—is . . . called “osteo-arthritis” (“osteo” means *bone*, so isn’t that name hilarious!). When someone says his or her right knee has arthritis because, “I’m old,” here’s how I typically respond: “Really, how old is the other knee?” Properly functioning joints don’t degenerate.

Arthritis is an “inflamed joint.” The joints are created by ends of bones meeting. At this point, they are

cushioned by cartilage. The knee, hip, shoulder and other bigger joints have a fluid-filled sac called a bursa (“burs-itis”). The inner lining of the joint has a grease-like fluid called synovial fluid which reduces friction and allows for freedom of movement. If the joint begins to malfunction, this is often coupled by a loss of synovial fluid that would aggravate the bones meeting in the joint.

When joints become arthritic, swelling causes stiffness, rigidity and tissue damage. The body will warn you with pain if the joint moves beyond its present limits. It’s a vicious cycle because, as mobility decreases, the muscles surrounding the joint also weaken and deteriorate, allowing for further damage to the joint. Eventually, you can have cartilage, ligament and tendon damage, as well as further bone erosion.

If these joints are functioning normally and well cared for, however, they just don’t “itis.” . . . Common medical wisdom is that if you have arthritis, essentially you’re doomed. This could not be farther from the truth. The body does heal.

Arthritis is due to a physical or chemical irritant in a joint or the system. If the cause of this irritation is avoided, removed or corrected, your body has a chance to heal. . . .

The majority of carbohydrates, particularly refined carbohydrates, can aggravate and even cause degeneration. Excess acids in the system do exactly what they sound like they do: They deteriorate and damage cells. Additionally, the body’s survival mechanism will attempt to neutralize these acids. (Calcium from bone is an exemplary acid neutralizer.) Therefore, as you consume sugar, flours, grains and other refined carbohydrates, your blood stream ends up in acid overload and you actually give yourself degenerative arthritis. Dairy and caffeine are two additional major acid culprits. . . .

Think of the tires on your car. When they’re misaligned, they wear unevenly. The musculoskeletal system operates the same way. . . . The vast majority of people in today’s culture have muscular imbalance. . . . [as well as] postural imbalance. . . .

Structurally, the only person you can go to is a chiropractor. The job of a chiropractor is to balance posture and correct misalignment in the spine and other joints. . . . Chiropractic rehabilitative exercises are actually designed to cause “regeneration,” the reversal of arthritis and rehydration of discs. . . .

Arthritis is not a terminal disease. If that’s what you’ve been told, fire your doctor.

—Ben Lerner, DC, 2010

arthritis-cats-dogs.com/article-detail.php?ID=152

Nutrients and Supplements for Inflammation

- ◆ ***Boswellia serrata* (Indian Frankincense).** Herb with potent anti-inflammatory effects.
- ◆ **Chondroitin sulfate.** Found in cartilage. Promotes moisture retention and elasticity. Inhibits enzymes that break down cartilage. In bone broth too.
- ◆ **Protease, Pancreatic, Serrapeptase, Nattokinase, Lumbrokinase Enzymes.** Anti-inflammatory. Used by white blood cells to break down waste products. Take on empty stomach so intact enzymes reach bloodstream instead of being used to digest food.
- ◆ **Glucosamine sulfate.** Found in cartilage. Promotes its formation and repair. In bone broth too.
- ◆ **Magnesium.** Vital mineral involved in many functions. Relaxes muscles. Different types of magnesium have an affinity for different body areas, so take all; most people are deficient. Onto sore muscles and joints, rub magnesium "oil." You can make it yourself. Half fill jar with magnesium chloride flakes (also called *nigari*, used to make tofu). Keep adding water; shake jar until flakes dissolve and solution is saturated. Bypasses digestive tract, reaches body areas instantly.
- ◆ **Proline-Rich Polypeptides.** Also known as transfer factors. Modulates immunity: stimulates lax immune function and calms hyperactive immune cells.
- ◆ **Turmeric.** Gold-colored root used in Indian cooking. Anti-inflammatory, immune-protective, anticancer.

Arthritis related to Gout

Gout is a metabolic disease of excessive uric acid in the blood. Avoid fructose (see Chapter 3, **Food**). Also see **GOUT**.

9.39, 9.4, 20, 660 + 690 + 727, 787, 880, 3K, 10K, 40K

Arthritis related to Nervous System Paralysis

9.39, 9.4, 10K

Arthritis related to Stomach Infection

9.39, 9.4, 10K

Arthritis related to Tonsil Infection

9.39, 9.4, 10K

Arthritis with Parathyroid Disturbances

Parathyroid disturbances affect calcium metabolism and cause either an excess or deficiency of calcium.

First try: 9.6, 10K

Then try: 326, 328, 4760.5, 673.1, 771, 40K

Bunion

Inflammation and thickening of joint, often in big toe.

20, 10K, 2720, 40K

Bursitis

Inflammation of connective tissue, mainly around joints. May be caused by a great many organisms. Also experiment with the arthritis, tendomyopathy, and sprain frequencies. Because white blood cells require enzymes to break down the waste products of inflammation (as well as infection), taking enzyme supplements on an empty stomach may help.

660 + 690 + 727, 787, 880, 10K, 40K

Elbow Pain / Epicondylalgia

1.2 + 250, 26, 160, 3K, 10K

Fluid in Joints and Tissues, to Reduce Excess Amounts

15, 24.3

Hip Pain

20, 660 + 690 + 727, 787, 880, 2720, 10K, 40K

Knee Pain

See a chiropractor to rule out subluxation or other structural causes.

1.2 + 250, 3 + 230, 7.69, 7.7, 9.39, 9.4, 9.6, 20, 28, 73, 160, 660 + 690 + 727, 787, 802 + 1550, 880, 2720, 3K, 40K

Osteoarthritis

The most common form of arthritis in the United States. Symptoms usually build up gradually. In the early stages, joints may ache after physical work or exercise. Repetitive injury and physical trauma can exacerbate the condition. Older and overweight people are especially susceptible, as are women after menopause.

Cartilage is a rubbery substance in the body that cushions the bones and help the joints move easily and smoothly. Osteoarthritis begins with the erosion of cartilage between the joints of fingers, knees, hips, and spine. As cartilage breaks down, the ends of the bones thicken, may knock against each other—giving the person a “crunching” feeling or the sound of bone rubbing on bone when the joint is used—and the joint may lose its shape. Bony protrusions may start to grow where they don’t belong. Damaged joint tissue can also cause the release of biochemicals called prostaglandins, which can add to the pain and swelling.

Other symptoms include steady or intermittent pain in a joint, stiffness after periods of inactivity, swelling, and tenderness. The wrists, elbows, shoulders, and ankles can also be affected. If this condition occurs in a joint not commonly affected, there is usually a history of injury or unusual stress to that joint. Toxins excreted by bacteria into the joints also cause pain.

From Jimmie Holman (in this order): 49280, 48K, 30784

Also try: 15, 324, 326, 528, 770, 1500, 40K

Use 512 along with the other frequencies you need.

Reactive Arthritis

Called “reactive arthritis” because chronic inflammation sets in after an initial infection by one of several bacteria, including *Chlamydia trachomatis*, *Shigella flexneri*, *Salmonella*, *Yersinia*, and *Campylobacter*. The initial bacterial infection can be transmitted via sexual contact or through food. Symptoms can include pain and swelling in joints, eye inflammation, and urogenital tract discomfort including painful (burning) urination and lesions on the penis. See entries for those pathogens under **BACTERIA**.

From Dr. Hulda Clark: 394K or 976.63 (for devices unable to accommodate frequencies in the kilohertz range)

Rheumatism

Severe joint pain, inflammation and swelling, often aggravated by inclement weather. May be accompanied by fever.

376 (from Dr. John Garvey), 262, 333 + 523 + 768 + 786, 776, 829, 10K, 40K

Rheumatoid Arthritis

An autoimmune disorder with similarities to Lupus erythematosus, rheumatoid arthritis can occur suddenly. The immune cells malfunction, attacking the body’s own healthy connective tissue in the joints—as though the person’s body itself were an unwanted foreign element, like a pathogen. Inflammation of the joint lining (the synovium) can cause pain, stiffness, tenderness, heat, redness, and inflammation. The affected joint may also lose its shape, resulting in loss of normal movement. Some people develop pea- or walnut-sized lumps of tissue under the skin of the elbow, hands, back of scalp, over the knee, or on the feet and heels, called rheumatoid nodules, which may or may not be painful. Both sides of the body are usually affected at the same time.

Rheumatoid arthritis attacks more than the joints of the wrist, fingers, neck, shoulders, elbows, hips, knees, ankles, and feet. Sometimes there is inflammation of the tear glands, salivary glands, spinal column, lining of heart and lungs, and the lungs themselves. Other symptoms may include disorientation and dementia, fatigue and malaise, and occasional fever. Rheumatoid arthritis can last a long time with active symptoms, or there may be few to no symptoms. Death can occur from this disease.

Although there’s a genetic predisposition to this condition, there also must be a trigger, such as a pathogen. (See the beginning of this section about arthritis in general.) The suddenness of this condition, along with the trigger, may suggest *Mycoplasma* infection. See, under **BACTERIA**, “*Mycoplasma*, many types” and “*Mycoplasma fermentans*,” as *Mycoplasma* infection is often the beginning of autoimmune conditions; and also **BACTERIA**, “*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer,” as research from Finland shows the presence of this pathogen (which also causes ulcers) in a high percentage of people suffering from rheumatoid arthritis. Also see **BACTERIA**, “*Chlamydia trachomatis*”; **CHEMICAL**

SENSITIVITY / POISONING, “Mercury, Aluminum, and Other Contaminants”; and **PARASITES, PROTOZOA AND WORMS**, “General (unspecified).”

First try: 376 (from Dr. John Garvey), 15, 324, 528 (these three frequencies worked for one person on record), 1.2 + 250, 7.69, 7.7, 9.39, 9.4, 9.6, 25, 660 + 690 + 727

Then try: 3 + 230, 20, 28, 262, 600 + 625 + 650, 776, 787, 802 + 1550, 880, 10K, 40K

End of Arthritis section.

ASCARIS, ALL TYPES

See under **PARASITES, PROTOZOA AND WORMS**.

ASPERGILLUS, ALL TYPES

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

ASTHMA

See under **RESPIRATORY TRACT, Lungs**.

ASTROCYTOMA

See “Brain Tumor / Astrocytoma” under **CANCER**.

ATAXIA, ALL TYPES

See under **MUSCLES** or under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

ATHLETE’S FOOT

See under **SKIN**.

ATTENTION DEFICIT DISORDER (ADD) / ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

AUTISM

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

AUTOIMMUNE DISORDERS

Normally, in the early stages of infection when the body is attacked by (for example) a virus, it releases chemical messengers called *interferons* from healthy cells to help them resist infection. Lymphoid cells known as Natural Killer T Cells (or NK Cells) attach to infected body tissue. This destroys both the foreign invader and the host cell. (Destroying the host cell limits the reproduction of new viruses because they cannot reproduce without a host.) NK Cells, whose number has increased, will recognize the same foreign invaders during a future infection and react more quickly. Even *Mycoplasma* (bacteria without a cell wall), and pathogens that have mutated, possess markers that the immune cells can recognize.

Another normal immune response is the creation of antibodies, produced in response to an antigen—a foreign protein, microbe, pollen, or other substance. Antibodies neutralize the infection by binding to the virus, thus reducing its ability to attach to a cell or penetrate it. These antibodies also help the body resist becoming reinfected.

Common Autoimmune Disorders

- ◆ Addison's disease
- ◆ Arthritis
- ◆ Celiac disease
- ◆ Crohn's
- ◆ Diabetes (some forms)
- ◆ Graves' Disease
- ◆ Guillain-Barre Syndrome
- ◆ Hashimoto's thyroiditis
- ◆ Lupus erythematosus
- ◆ Myasthenia gravis
- ◆ Multiple sclerosis
- ◆ Pernicious anemia
- ◆ Polyarteritis nodosa
- ◆ Polymyalgia rheumatica
- ◆ Psoriasis
- ◆ Raynaud's phenomenon
- ◆ Rheumatoid arthritis
- ◆ Sarcoidosis
- ◆ Sjogren's syndrome
- ◆ Ulcerative colitis

The body's immune response, however can malfunction. With chronic viral conditions such as Epstein-Barr, HIV and AIDS, the viruses attempt to slow the immune response by infecting the immune cells themselves. This is a clever survival tool for the virus because malfunctioning immune cells cannot respond to protect the host. With autoimmune disorders, the body's NK Cells attack the person's own tissues as though the tissues were foreign invaders. Autoimmune disorders are often due to the presence of tiny *Mycoplasma*—so-called “stealth pathogens”—whose lack of a cell wall enables them to invade our cells. The NK cells sense something hiding in our tissue, and attack. If *Mycoplasma* invade the central nervous system, the disease is Multiple Sclerosis (although MS can also have a non-autoimmune origin). If *Mycoplasma* invade our joints, the disease is rheumatoid arthritis. If the body attacks its own tissues that it mistakes for foreign proteins, resulting in a severe inflammatory response anywhere, the disease is Lupus erythematosus. If there is severe, progressive muscular weakness—causing difficulty in swallowing and breathing that can lead to death—the condition is Myasthenia gravis. If certain symptoms manifest in the thyroid, it's called Graves' (Basedow's) Disease. Fibromyalgia, a syndrome of assorted symptoms rather than a disease per se, is considered an immune disorder as well. The biofilms created by pathogens can also cause or exacerbate autoimmune conditions.

Vaccines, which are specifically designed to stimulate an immune response, do this to such an extent that the body is forced into an abnormal, hyper-responsive state. For more information, see Chapter 1, **The Vaccine Controversy**.

A body that cannot respond effectively to current or future pathogens needs a supportive foundation. Ozone therapy (see Chapter 3, **Oxygen Therapies**) not only destroys pathogens and abnormal cells, but helps maintain the health of normal cells. Build up the body through nutrition. Holistic clinics give raw green vegetable juices to people with life-threatening and chronic conditions. Fresh lemon juice in pure water is a potent liver detoxifier. Lemon also cleans and restores the receptor sites of cell membranes. If you're on hormone replacements, note that estrogen may interfere with proper immune function and trigger autoimmune diseases. There are different forms of estrogen as well as estrogen precursors, to which women respond differently.

Supplement with proline-rich polypeptides (PRPs, also called transfer factors). PRPs are “immune messenger molecules” that pass information among immune cells about what type of external or internal threat is present, and how the body should respond to this threat. They are present in colostrum, produced by nursing animals and humans before milk is produced. Because the amino acid sequences are the same in the colostrum of all species, supplements made from colostrum extracts of, say, a cow will work for humans. PRPs activate whatever healthy NK Cells are still in the body before an infection becomes entrenched. PRPs create, and educate, a large number of Helper T Cells involved in the manufacture of neutralizing antibodies. (T Cells are specific for a given virus. They circulate throughout the bloodstream to seek and destroy cells that have been virally infected.) PRPs also help restore body cells that are damaged.

Inflammation is always a component of autoimmune disorders. Pathogens are a common source of inflammation; there may be a chronic, underlying condition.

Another contributor to autoimmune conditions is hypothyroidism, which is either underactivity of the thyroid gland or the inability of the cells to properly utilize thyroid hormone. Over half the hypothyroid population suffers from excess mucin, a sugar-protein compound normally present in connective tissue. Accumulation of the hydrophilic (water-loving) mucin damages the connective tissue of skin, blood vessels, lymph channels, muscles, nerves, and other parts of the body. Lupus, a disorder of the connective tissue, is one of many conditions that could be corrected with proper thyroid hormone supplementation (see **GLANDS, Thyroid**, “Thyroid, Underactive / Hypothyroidism”).

Researchers have discovered that biofilms from certain pathogens in the gut can also trigger an autoimmune response, so see, under **BACTERIA**, “*E. coli* / *Escherichia coli*,” “*Salmonella* / Food Poisoning,” and “*Mycoplasma*, many types.” A major weakener of the body's immune function is toxins, so also see the many entries under **CHEMICAL SENSITIVITY / POISONING**. Also see, under **LYMPHATIC SYSTEM**, “Spleen, Enlarged, and other Conditions” and “Thymus Conditions.” .24, 1.2 + 250, 3, 5.09, 7.69, 7.7, 9.39, 9.4, 9.6, 20, 28, 32.5, 75.85, 95.75, 146, 175, 456, 464, 522, 600 + 625 + 650, 660 + 690 + 727, 776, 784, 787, 800, 802 + 1550, 880, 927, 1850, 10K, 40K (which restores cell function.)

AVIAN FLU

See under **VIRUSES**.

-B-

BABESIA / BABESIOSIS

See under **PARASITES, PROTOZOA AND WORMS**.

BACILLUS, MANY VARIETIES

See under **BACTERIA**. (This includes *B. coli*.)

BACKACHE, INCLUDING SPASMS

See under **INJURIES**.

BACTERIA

Conventional medicine notes three classes of harmful bacteria: 1) *Bacilli*, shaped like rods; 2) *Cocci*, spherical in shape and exist singly, in pairs, chain formation or clusters; and 3) *Spirilla*, formed like a spiral or corkscrew, singly or in segments. Most bacteria reproduce through cell division (dividing themselves in half), although very large bacteria create “babies” inside the parent cell, which are then released through a small slit in the parent’s cell wall. Some bacteria thrive in an aerobic or oxygen-rich environment, while others are anaerobic, living only in an absence of oxygen. Still others adapt to their environment, surviving both aerobically and anaerobically. Because bacteria are larger than viruses, most can be seen individually under a microscope.

Bacteria feed on diseased organisms—further fermenting tissues that still possess some vitality—as well as on already dead material. What we experience as disease is either due to an attack by microbes (as when they destroy red blood cells), or the poisonous waste products (including pus and gas) that the pathogens excrete into the bloodstream and surrounding cells. Some types of very tiny bacteria form calcium phosphate shells around themselves to protect themselves from the host’s immune cells. These lumps of crystallized calcium are implicated in many disease conditions, including arthritis, stroke, cancer, back pain, and even Alzheimer’s.

Recently it has become apparent that the divisions between various pathogens is less distinct than was previously thought. Nevertheless, the conventional labeling systems are still useful. If you don’t know the classification of a specific pathogen, look up its name in this Directory according to its first letter; all conditions are alphabetized.

If you are using the correct frequencies but feel no relief, see **PARASITES, PROTOZOA AND WORMS**, “General (unspecified).” Parasites in the system can slow or prevent the healing from any other condition. Also, if your illness stems from, or is related to, conditions in your gastrointestinal tract, you’ll benefit from friendly flora (as fermented food or in supplements). If more friendly flora reside in the gut, fewer pathogenic bacteria will be able to survive there.

***Actinomyces bovis* / Actinomycosis (in animals)**

Found in the oral cavity of mammals (primarily cattle), this bacterium can infect the brain, jaw, lungs, and gastrointestinal tract. It causes infections with lesions and swelling in the teeth and jaw (commonly called “lumpy jaw”). According to some scientists, *Streptothrix* was a previous term for this pathogen, though others claim that the two are distinct. Also see “*Actinomyces israelii*,” below. From Royal Rife, possibly used on his #4 machine: 192K Then try: 488, 565, 672, 674, 678, 766, 768, 773 (an important frequency), 773–778 (sweep), 822, 885, 887, 7877, 9687, 42664, 42666, 46668, 46787

Actinomyces israelii* / Aggregatibacter**Actinomycetemcomitans* / Actinomycosis (in humans)**

All *Actinomyces* strains form branched networks of hyphae (threadlike tendrils) when in colonies, so they’re often assumed to be fungi when they are bacteria that are mostly anaerobic (thrive in the absence of oxygen). These bacteria help form compost (they produce enzymes that help degrade plants); but in the body they cause actinomycosis of the brain, lungs, gastrointestinal tract, sinuses, or jaw. Infection usually manifests as lumps in the neck and head, a sinus infection, or a dental infection featuring pus-filled cavities in the mouth. (Pus is an accumulation of dead white blood cells.) Try all *Actinomyces* frequencies.

First try (Dr. Loyd and Dr. Garvey): 262, 358, 787, 2154 Then try: 20, 23, 46.5, 73, 160, 222, 465, 488, 567, 660, 690, 727, 747, 766, 776, 787, 802, 880, 1550, 1600, 1800, 2154, 2489, 2720, 7880

***Bacillus anthracis* / Anthrax**

Bacillus anthracis causes anthrax, an infectious, sometimes fatal disease of warm-blooded animals (especially cattle and sheep). It transmits to humans through contact with animal hair and hides. Symptoms include ulcerous sores in the lungs or gastrointestinal tract and an accumulation of dead white blood cells. Risk of infection is not very high.

From Royal Rife, possibly used on his #4 machine: 139200

From Dr. Marty Monahan: 193, 224, 329, 410, 420, 585, 930

From Dr. John Garvey: 633

Long set (some numbers from M. Tigchelaar): 129, 224, 273, 400, 414, 420, 500, 768, 900, 930, 768, 1365, 1370, 1665, 4K. Also 622, 623, 624, 627, 628, 629, 632, 633, 634, 637, 638, 639, 642, 643, 644. With so many numbers that close together, do a 45-minute sweep

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz sets:

393500 (lowest), 395K (optimal), and 398K (highest)
363200 (lowest), 364K (optimal), and 365300 (highest)
359400 (lowest), 368K (optimal), and 370500 (highest)

The Battle of Bacteria and Biofilms for Your Body

Introduction. In the 1600s, the Dutch scientist Anton van Leeuwenhoek, known as the “Father of Microbiology,” studied his own dental plaque under a microscope and discovered bacteria. But it was not until the 1970s that scientists began to understand how complex bacteria really are. Despite their size, bacteria—and other pathogens—are not passive or without strategy. They have highly sophisticated ways to transform themselves and their environment, which allows them to survive in adverse conditions. As long ago as 1992, scientists had learned that “Bacteria Are Found to Thrive on a Rich Social Life.”

These single-celled creatures, long viewed as independent and self sufficient . . . lead a rich social life. . . . They travel in packs, cooperate and are willing to be sacrificed so their fellows may survive. Some aggregate so closely as to mimic a multi-cellular organism.

. . . When [some types of] bacteria are exposed to noxious chemicals . . . they secrete amino acids that direct them to aggregate in tight little spheres for protection. . . . An invading bacterium seems to signal others to join it. The groups of bacteria that congregate in certain body tissues then clump together to resist attacks by antibiotics. . . . [Bacteria] display an even greater degree of cooperation during times of [food] scarcity. Faced with starvation, the bacteria turn into tough spores, resistant to freezing and drying, in which they survive in suspended animation. The individual spores clump together, a hundred thousand or so at a time into a cylinder.

The bacteria also have a signal that is emitted when there are enough of them—10,000 to 100,000. . . . The signal that this density has been attained is a mixture of eight amino acids. On sensing it, the cells group together and form into a pile as neatly ordered as logs in a cord of wood. . . . [One doctor] was fascinated by the “fantastic geometric patterns” made in Petri dishes by colonies of *E. coli* and *Salmonella typhimurium*. . . . The patterns seemed to her to be clear evidence that the bacteria must somehow be communicating with each other.¹

Herbalist Stephen Buhner believes that because pathogens have other methods of self-protection, the recent emphasis on the dangers of biofilm is exaggerated. Other professionals (as well as many people who are seriously ill) disagree.

Biofilm and Its Microorganism Creators. Biofilm is constructed from proteins, polysaccharides (sugars), and fibrin (a protein the body uses to clot blood), which gives the biofilms structure. But it also contains “food”: heavy metals, toxins, and particles of the host’s DNA. The host’s DNA also prevents the immune cells from attacking (because the biofilm is seen as belonging to the host). Biofilm forms when free-floating pathogens land on a surface and produce the hard, thick, adhesive-like slime. Researchers describe biofilm clusters under a microscope as elaborate, three-dimensional glue tower structures. Most biofilms range in thickness from a few microns to hundreds of microns (one micron is one-millionth of a meter). It is difficult to eliminate these colonies because biofilm is so gooey. Biofilm allows microorganisms to:

- ◆ Stick to a living or non-living surface with glue-like tenacity.
- ◆ Form into colonies.
- ◆ Protect themselves from the host’s immune cells that try to eliminate them, and from agents that can disable or kill them such as herbs, pharmaceuticals, and frequency therapy.
- ◆ Communicate with each other and act as one organism with a single consciousness.

Biofilm can stick to almost any type of material—metal, plastic, soil, human and animal tissue—as long as the material contains moisture or has water around it.

Bacteria that form biofilms or become members of biofilm communities may possess cell walls, lack them altogether, or be in their L-form state. As many as 300 different species of bacteria can form biofilms in the mouth (which we know of as plaque). Different microorganisms can inhabit one biofilm colony: fungi, protozoa, and even algae and worm-like organisms. Some researchers state that in the case of Lyme disease, members of a biofilm colony may merge with *Borrelia* and create a hybrid organism. Also, biofilms spread. Plaque (biofilm) in the mouth is known to induce infections elsewhere in the body—such as in the brain (strokes and dementia), and in the heart (cardiovascular disease).

Biofilm colonies have their own metabolism. They develop a complicated architecture, which usually contains channels through which nutrients flow and waste leaves. In colonies with more than one type of microorganism (a common occurrence), each pathogen utilizes different nutrients, thus avoiding competition and making the community stronger.

Where Biofilm is Found. Scientists recognize that biofilms have existed for millennia. In fact, biofilms have been identified in Australian deep sea fossils that are 3.2 billion years old. Biofilms can lodge anywhere: on the surface of stagnant pools, on contaminated food, on pebbles at the bottom of a stream, on the surfaces of your kitchen sink and bathtub, in your toilet bowl, and even on your contact lenses and medical implants.

Biofilms also live in human and animal bodies, which contain many moist surfaces (blood, saliva, urine, mucosal tissue). The familiar hard, yellowish dental plaque on your teeth is a common form of biofilm, made by a complex clump of living, communicating cells.

How Biofilm Colonies Communicate. The members of biofilm colonies communicate by sending molecular signals to one another, a method known as *quorum sensing*. If a bacterium is by itself, it will secrete a long signal molecule; if part of a community, it will secrete a shorter one. When the signals between the microorganisms become strong enough, the pathogens respond and behave as a single entity or consciousness. Pathogens may decide to cluster together more tightly to evade the host's immune cells, or to make space for new pathogens. They will also signal when leaving the site—as single (planktonic) cells—to begin new colonies. Incredibly, quorum sensing can occur within a single species of pathogen or between diverse species.

Diseases and Biofilms. According to the National Institutes of Health, more than 65% of all microbial infections are caused by biofilms. Biofilms have been found on the removed tissue of 80% of patients undergoing surgery for chronic sinusitis. Biofilms cause the formation of kidney stones, which are produced by bacteria and minerals that the bacteria seize from the urine. In people with endocarditis (inflammation of the inner layers of the heart), biofilms are often living on a cardiac valve. Pathogens in vaginal tissue and tampon fibers can also form biofilms, causing inflammation and Toxic Shock Syndrome. The sludge covering diabetic wounds is largely made up of biofilms. In one study, biofilms were shown to infect children with chronic ear infections. Biofilms play a major role in autoimmune and inflammatory diseases, and even cause most of the infections associated with contact lens use.

Biofilms are especially problematic in the case of Lyme. Although Lyme disease is caused by various *Borrelia* strains, most Lyme sufferers harbor many other infectious microbes, or co-infections, that live in the *Borrelia* biofilm matrix. In many cases, these co-infections—such as *Babesia* and *Bartonella*—may cause symptoms equal in severity to *Borrelia*. *Babesia* may even cause death.

How to Destroy Biofilms. Bacteria, fungi, viruses, and other microorganisms that live inside biofilm can be up to a thousand times more resistant to being destroyed by antimicrobials (antibiotics, the body's own immune cells, or Rife Therapy) than planktonic or free-floating bacteria. The longer the biofilm remains, the more ordered and structured the tightly knit communities become, and the more difficult it is to penetrate the hard sticky shields. Pathogens can join together on almost any surface and form a protective matrix at any time. Although biofilms grow slowly, they can easily infect new tissues—either by rippling or rolling across a surface, or by detaching in clumps. It's to the colony's advantage to keep the host alive—otherwise, the pathogens will no longer have a place to live. So the host's immune defenses are allowed to keep the biofilms *somewhat* contained. But the infection never really leaves. This has enormous repercussions for people with chronic diseases involving multiple pathogens (such as Lyme and its co-infections).

Medicine has treated disease based on the assumption that all pathogens are planktonic (free-floating). This approach may be largely due to the greater ease of culturing individual microorganisms than whole biofilm colonies. But as more researchers understand that most pathogens live in mixed communities that form slime for protection, the methods previously used to eliminate infections will change. *Biofilms must be broken up first before the pathogens living inside can be killed.*

In some instances, low doses of antibiotic drugs have been found to pierce biofilms. Some doctors prescribe taking, stopping, and then re-taking the drugs to lull any remaining persistent pathogens into not replicating during the “stopping” phase, which allows the next drug dose to eradicate them. However, antibiotics are toxic. There are quite a number of safe, natural substitutes for drugs that can pierce biofilms. Once the biofilms are penetrated, other therapies can reach the pathogens and eliminate them. *During this stage, all substances must be taken in therapeutic (large) amounts!*

◆ **Enzymes.** Lumbrokinase, mucolase, nattokinase, and serrapeptase. Don't eat for 2 hours beforehand—otherwise, the enzymes will be used to digest food and won't reach the bloodstream to eat biofilms. Take 1 tablespoon of lecithin with the enzymes to help them reach the biofilm. After an hour, use the “killing” method of choice. *Don't take the enzymes without doing a “killing” treatment afterward!* Otherwise, you'll simply release the pathogens, which will then cause infections elsewhere. Protein-digesting enzymes thin the blood, so consult your doctor if you're taking a blood thinner or have blood clotting problems.

- ◆ **N-Acetyl-Cysteine (NAC) / N-Acetyl-L-Cysteine.** This nutrient is converted by the body into the amino acid cysteine and then into the antioxidant glutathione, which prevents liver damage. NAC is antibacterial and antifungal, inhibits biofilm formation by 62%, and penetrates and destroys deep biofilm layers. For neurological disorders, serious respiratory illnesses (it thins mucus), gastrointestinal infections, and dental disease (and plaque). Also improves insulin sensitivity, blocks cancer cell formation, and reduces cravings f.
- ◆ **Essential Oils (EOs).** Three essential oils inhibit the formation of biofilms, break down biofilms that have already formed, and target the pathogens directly responsible for producing the biofilms: peppermint, rosemary, and tea tree. Other essential oils have been found to inhibit the quorum sensing (communication abilities) of certain pathogens. Rose, geranium, lavender, and rosemary (which also bursts biofilm) affect *E. coli*. Clove bud, lavender, peppermint, and (to a lesser extent) cinnamon bark inhibit the quorum sensing abilities of *Pseudomonas aeruginosa*. EOs are potent. Use them with carrier oils.
- ◆ **Herbs: Terminalia chebula, Moringa oleifera, Cistus incanus, neem.** Burst biofilms and help destroy what lives in them. They also help strengthen the body.
- ◆ **Colloidal Silver.** Destroys *Staphylococcus aureus* (among other pathogens) and also its biofilms.

How to Destroy Pathogenic Microorganisms. Biofilm colonies can contain many different pathogens—bacteria, fungi, parasites, and even newly formed composite pathogens. Biofilms exist in layers. Each layer must be dismantled in succession, every time revealing new microorganisms inside. Not all methods will kill every pathogen, or work every time, so they should be rotated. These are *non-drug* approaches.

- ◆ **Colloidal Silver.** Made by passing current between two pure silver wires immersed in distilled water, the colloid particles (less than .015 microns) and smaller silver atoms and ions (.230 nanometers) kill one-celled bacteria and viruses (but not multi-cellular protozoa and worms) as long as it can directly touch them. Silver also reduces inflammation, normalizes cell and tissue function, and helps immune cells work more efficiently. See Chapter 3, **Colloidal Silver**, for details.
- ◆ **Essential Oils.** In addition to those mentioned above, lemon and lemongrass can kill some pathogens. Tea tree, rosemary, thyme, and especially oregano are antibacterial, antifungal, and antiviral. Use with care.
- ◆ **Microbe-Killing Herbs.** Besides those already mentioned are aloe vera, cat's claw, frankincense (*Boswellia*), grapefruit seed (not grapeseed) extract, hydrangea root, *Mimosa pudica*, neem, olive leaf, pau d'arco, sarsaparilla (*Smilax officinalis*), and turmeric.
- ◆ **Monolaurin, Lauric Acid.** Antiviral and antibacterial.
- ◆ **Adaptogenic Herbs For Immune Function.** Immune-stimulating herbs such as echinacea raise the number and function of immune cells. *Adaptogenic* herbs regulate or normalize immune function by lowering the activity of overactive immune cells and raising the activity of sluggish ones. Such herbs are completely safe, have broad health applications, and reduce mental and physical stress. The true adaptogens (without possible unwanted other effects) include ashwagandha, astragalus, eleuthero (misleadingly called "Siberian" ginseng), red (Asian) ginseng, white (American) ginseng, holy basil, jiaogulan (*Gynostemma*), rhodiola, and schisandra.
- ◆ **Proline-Rich Polypeptides (PRPs) or Transfer Factors.** The messenger molecules in colostrum, the thin fluid that precedes the milk from a nursing mammal. The immune cells are told to multiply, recognize foreign invaders now and in the future, disable pathogens, and avoid attacking the body's own tissue.
- ◆ **Vitamin C.** The best form is ascorbic acid, unbound to minerals. Strengthens blood vessel walls and helps protect cell membranes from invading pathogens. Loose stool indicates that you're taking too much; more is tolerated if taken in its liposomal form (see Chapter 3, **Nutritional Supplements**). Take one gram every hour. Dihydroquercetin (a flavonoid in grape leaf extract) makes Vitamin C last longer by replacing its spent electrons. Alpha lipoic acid also helps recycle Vitamin C in the body. Don't eat sugar, which attaches to the same cell receptor sites as Vitamin C and thus interferes with its absorption.
- ◆ **Vitamin D3.** A hormone made by the skin if there's enough sun exposure. Also in clean fatty animal foods. D3 builds bone, supports immunity, and more.
- ◆ **MMS (Miracle Mineral Supplement) / Sodium Chlorite.** When activated by a mild food acid, such as citric acid or lemon juice, this preparation becomes chlorine dioxide. Chlorine dioxide has a unique ability to oxidize pathogens and toxins (like ozone), but it completely breaks down into harmless substances. Very effective and safe when properly used. Begin with 4 drops every hour, work up to 20 drops. Avoid food for 2 hours before.
- ◆ **UV Light and Ozone.** Ozone kills almost any pathogen, as does Ultraviolet-C light, which eliminates pathogens almost instantly. Consumers can't afford hospital grade UV units, but can buy portable ozone generators (see Chapter 3, **Oxygen Therapies**).

Hz sets:

975.39 (lowest), 979.11 (optimal), and 986.54 (highest)
900.28 (lowest), 902.27 (optimal), and 905.49 (highest)
890.86 (lowest), 912.18 (optimal), and 918.38 (highest)

Higher Clark numbers:

19665.89, 18122.49, 18321.64, 19317.38, 961.76

Clark sweep: 359–399.

***Bacillus anthracis* Spores**

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 386950 (lowest), 388K (optimal), 391450 (highest)

Hz set: 959.15 (lowest), 961.76 (optimal), and 970.31 (highest)

Also from Clark: 386.95 to 391.45

***Bacillus botulinum* / Botulism / Food Poisoning**

Bacillus botulinum produces a potent neurotoxin, from spoiled food that has been improperly canned or left unrefrigerated in hot weather. Causes nausea, vomiting, intense abdominal cramping, fatigue, headache, difficulty swallowing, distorted vision, diarrhea, paralysis, and sometimes shock and unconsciousness leading to death. Also see the “*Salmonella*” entries in this section; and **CHEMICAL SENSITIVITY / POISONING**.

172, 518, 533, 639, 660 + 690 + 727, 683, 691, 802 + 1550, 831, 1372, 1552, 10K

Bacillus cereus

Found in soil or on vegetables, causing diarrhea, nausea and vomiting.

926.19, 928.28, 928.29, 931.6, 462.89, 18645.25, 18645.26, 11676.55, 11703.12, 11745.3, 374500

Bacillus coli* or *B. coli

See “*E. coli* / *Escherichia coli*” in this section.

Bacillus licheniformis

This bacterium has different forms, producing short and long rods, cocci, and branched filaments that superficially resemble a fungus. It can morph into cancer.

From Dr. Jeff Sutherland: 2655, 21554

From M. Tigchelaar: 334, 1675, 1722, 2008, 2111.3, 2127, 2127.5, 2155.4, 2385, 2521, 2663, 2655, 2674.9, 4254.73, 5655.65, 5355.67, 6265.62, 7356, 8020, 8655.4

Bacillus subtilis

Found in the gastrointestinal tract of humans and ruminants, it survives high heat and causes cramps, nausea and vomiting, and diarrhea. It also causes eye infections.

From Dr. John Garvey: 432, 722, 822, 1246

Bacillus thuringiensis

520, 902, 1405, 2551

Bacteroides fragilis

Causes diarrhea if it passes from gut into bloodstream.

565 (from Dr. Richard Loyd), Sweep 633–637

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz sets:

324300 (lowest) and 325K (optimal and highest)

325700 (lowest) and 326K (optimal and highest)

Hz sets:

803.86 (lowest) and 805.59 (optimal and highest)

807.33 (lowest) and 808.07 (optimal and highest)

Also from Clark: 16180.80, 16230.58, 808.07, 805.59

Bartonella bovis

Infects cattle but can affect other mammals and humans. Symptoms are similar to those of *Bartonella quintana*. Run with a 2 Hz sweep, in decimal increments.

344.6

Bartonella henselae

Similar in effects to strain below.

From Richard Loyd: 878

***Bartonella quintana* / Bartonellosis / Febris Wolhynia / Wolhynia Fever / Trench Fever / Quintan Fever / Shin Bone Fever**

The infection from *Bartonella quintana* has been called by many names. It was called “Urban Trench Fever” because it affected the homeless, alcohol abusers, and inner-city folk of low income. It was called “Trench Fever” during World War I because the symptoms were first noted in Allied soldiers who fought in the trenches. The bacterium itself has also changed names. A member of the *Rickettsia* family, it used to be called *Rochalimaea quintana*, but was reclassified as *Bartonella quintana*.

Several *Bartonella* species live in North Africa, Mexico, and North America. Some are spread by sand flies in the Andes Mountains of Peru, Columbia and Ecuador. Others are carried by fleas, body lice, various species of biting and wingless flies, and ticks. In California within the last decade, five different strains of *Bartonella* were identified.

Bartonella quintana was originally thought to proliferate in the gut of the body louse (an insect), but it’s now found in the lining of blood vessels. Originally the disease was transmitted by rubbing infected louse feces into chafed skin or the whites of the eyes (conjunctiva). However, with the proliferation of tick-borne illnesses, people with Lyme disease are prone to other co-infections as well, which include *Bartonella*. This disease is not secondary to Lyme, but a tenacious and harmful illness in its own right.

Early signs of Bartonellosis can be sudden: fleeting rash, high fever, fatigue, headache, swollen glands, and endocarditis (infection of heart and large blood vessels). Symptoms also include back and leg pain, especially in the shins (which gave the disease one of its nicknames). Long-

term sufferers report continued neurological symptoms: leg and arm numbness, unsteady gait, balance problems, blurred vision, memory loss, and tremors. *Bartonella quintana* also causes lesions similar to those in HIV. A universal symptom is joint pain. Recovery can be hard and relapses are common if only conventional means are used.

Bartonella reproduces quickly, so rife two to three times a day. Also see “*Borrelia*, all types / Borreliosis / Lyme Disease” in this section, as *Borrelia* often occurs together with Lyme and *Bartonella*.

From Dr. Richard Loyd: 364, 379, 645, 654, 786, 840, 842, 844, 846, 848, 850, 857, 878, 967, 6878, 634, 696, 716, 1518, 9658

Also try: 356, 547, and especially 832 and 1518

Also try: 7776665.66 or 7776665.67

Biofilms

A sticky, hard, structured formation produced by many types of pathogens, that protects them from harm and helps them adapt to their environment. With especially stubborn diseases (such as Lyme), biofilms must be destroyed before the pathogens living inside can be killed. Don't rely solely on the frequencies. See Insert, page 616, “The Battle of Bacteria and Biofilms for Your Body.”

477 (from Dr. Richard Loyd), 641.18, 543.75

Bordetella bronchiseptica / Kennel Cough

This very infectious bacterium, carried via direct contact, airborne droplets, and the sharing of contaminated items, causes inflammation of the upper airways in cats and (rarely) humans. However, it affects mainly dogs and is known as kennel cough. Symptoms include sneezing, breathing difficulty, lethargy, fever, eye and nose discharge, appetite loss, and of course coughing.

From Dr. Richard Loyd: 655

Bordetella pertussis or *Bordetella parapertussis* / Whooping Cough

Bordetella pertussis (*Bordetella parapertussis*) causes whooping cough, a serious disease that can permanently disable infants or lead to vomiting and choking, eventually causing death. Symptoms include runny nose, diarrhea, fever, and a persistent cough that (mostly in those over six months of age, before adulthood) ends with a “whoop” noise when the person breathes.

First try: 526, 765 (both from Dr. John Garvey), 46, 284, 660 + 690 + 727, 697, 906, 9101

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 329850 (lowest), 331K (optimal), and 332250 (highest)

Hz set: 817.62 (lowest), 820.47 (optimal), and 823.57 (highest)

Also from Clark: 16479.52

Also try: 776, 787, 802 + 1550, 832, 880, 1234, 7344

Borrelia, all types / Borreliosis / Lyme Disease

Lyme disease or Borreliosis is a condition of syndromes and symptoms, caused by various *Borrelia* strains (which are related to syphilis). In the host, *Borrelia* adapts to survive by morphing into three different forms according to the condition. The most well-known form is the corkscrew-shaped or spiral spirochete, which has an outer cell wall and produces symptoms. It's powerful enough to bore into bone by spinning, which partly accounts for the extreme damage it causes to the host. The second form is cell-wall-deficient (sometimes referred to as L-form), which doesn't have a cell wall and also produces symptoms. The third form, the cyst—whose dense outer capsule makes it impervious to most threats in its environment, including many pharmaceutical antibiotics—is dormant, and doesn't produce symptoms. Antibiotics typically cause the other two forms to morph into a cyst.

The immune cells cannot recognize *Borrelia* without a cell wall, and thus cannot mount a defense against it. *Borrelia* also circumvents the immune cells when it lodges in the brain and spinal cord, as pathogens in the central nervous system—which is isolated from the rest of the body—are undetectable by antibodies in the blood. The central nervous system is an ideal incubator for *Borrelia* because the spirochete expresses a new set of genes once it's in the brain. Pharmaceutical antibiotics work by breaking down bacterial cell walls, but they cannot target *Borrelia* in its cell-wall-deficient form which is impervious to drugs. The cyst form of Lyme survives antibiotics, starvation, and changes in pH and temperature. When the host's terrain is favorable to it, the cyst form will transmute back into a spirochete form. The cyst form is responsible for the relapses that some Lyme sufferers experience after months or even years of apparent good health without symptoms. The lack of a cell wall (and hence, the lack of antibodies in the system) also help explain why almost all tests for Lyme are inaccurate. If you have been diagnosed with another disease and your symptoms won't abate, you may have Lyme.

Borrelia is transmitted by insects. The most common are deer ticks, but Lyme has also been found in mosquitoes in central Europe and in sandflies in the Middle East. Lyme is also transmitted through kissing, sexual intercourse and other contact between humans; through contact between humans and animals; and contact between animals. The spirochete has been found in human blood, urine, vaginal secretions, semen, and spinal fluid. History reveals that in the 1970s, a genetically engineered form of the *Borrelia* spirochete was created at a US government biological laboratory called the Plum Island Animal Disease Center, near Lyme, Connecticut, in the US. It would have been easy for a tick to escape from the facility, migrate to the mainland, and reproduce. Although *Borrelia* is rampant in the United States, it's now found all over the world. Some especially afflicted areas include the British Isles, most of Europe, the southernmost tip of Africa, some parts of

China, and nearby Korea and Japan. Various strains of the highly adaptive pathogen include *Borrelia burgdorferi*, *Borrelia afzelii*, *Borrelia garinii*, *Borrelia lonestari* and *Borrelia valaisiana*; but there are many more. All are genetically similar to each other, and all cause Lyme disease.

Lyme often begins with a rash at the site of the insect bite. About 20% of rashes look like a bull's-eye. Others appear as a solid circle, blister, bruise (without the typical yellow coloring of a bruise), or streaks appearing anywhere on the body as the Lyme spreads.

The many devastating symptoms from the bacterium are due to its ability to induce complex responses of inflammation and autoimmunity in any part of the body. Thus, Lyme sufferers may have swollen glands, an enlarged liver, or an enlarged spleen. One's constitution and cell receptor site sensitivities determine which symptoms will appear. Common symptoms of Lyme manifest in the muscles, skeletal system and joints, causing flu-like aches, sweats, weakness, arthritis, carpal tunnel, stiffness, fever, and chills. Neurological symptoms are also common, encompassing a wide range of mental problems including mood swings, panic attacks, depression, general confusion, memory loss, and difficulty thinking. Overtly physical neurological manifestations include tremors, poor balance, insomnia, narcolepsy, slurred speech, and numbness, tingling and burning in the nerves and limbs. Digestive symptoms include indigestion, nausea, vomiting, diarrhea, and constipation. Respiratory tract symptoms include shortness of breath, cough, and chest and rib pain. Circulatory system symptoms include heart palpitations or extra beats, and vessel and heart blockage. Urinary tract symptoms include irritable bladder and interstitial cystitis. Reproductive organ symptoms include loss of sex drive, sexual dysfunction, and menstrual difficulties. Symptoms in the eyes include inflammation, double or blurry vision, oversensitivity to light, and even blindness. Symptoms in the ears include hearing impairment, buzzing and ringing, pain, oversensitivity to sound, and even deafness. Hormones may also be unbalanced.

At some point Lyme subjects will feel exhausted, with intense pain in the joints, bones and muscles. It's common to be susceptible to other infections, and have constant low body temperature (indicating thyroid underactivity), food allergies, extreme chemical sensitivity, sleep disturbances, systemic inflammation, and nutritional deficiencies. Lyme impairs the white matter in the brain, causing most people to suffer from loss of short term memory and cognitive abilities—along with brain fog, which makes it difficult for Lyme sufferers to monitor their own symptoms. Sometimes Lyme disease ends in death.

Lyme causes so many and varied symptoms that it mimics other conditions—such as Multiple Sclerosis due to the nerve damage it creates, or chronic fatigue because it's so debilitating. Not surprisingly, Lyme subjects are often diagnosed with other conditions: an autoimmune disease (Lupus or rheumatoid arthritis), cardiovascular

issues (including angina and heart failure), chronic fatigue, fibromyalgia, obsessive-compulsive disorder (OCD), schizophrenia, Bell's Palsy, cerebral palsy, Parkinson's, Alzheimer's, amyotrophic lateral sclerosis, Multiple Sclerosis, Reflex Sympathetic Dystrophy, autism, schizophrenia, or other disorders.

Lyme is very difficult to treat, not only because of its many symptoms but also because it's usually accompanied by co-infections or other pathogens: usually *Babesia* and *Bartonella*, sometimes *Ehrlichia*, sometimes *Mycoplasma*, and even parasites and worms. These pathogens hide inside biofilms—sticky, hard, almost impenetrable fortresses of slime, built on a fibrous matrix that house many different types of pathogens in organized clusters or colonies. Biofilms also contain the pathogens' food—heavy metals, toxins, and even the host's own DNA. Created by the pathogens, biofilms adhere to any surface that contains moisture. They usually block blood flow. They hide and protect the microorganisms so well that the body's immune cells cannot locate, identify or disable them, or escort them from the body. Colony inhabitants communicate with each other and routinely exhibit cooperation strategies to ensure their maximum proliferation and survival. As long as they're protected by biofilms, pathogens can lie dormant for long periods, remaining inaccessible to frequency therapies, almost all pharmaceutical antibiotics, and a fair number of herbal agents (though not all herbs). Therefore, penetrating the biofilms first is necessary to completely obliterate the disease (see Insert on page 616, "The Battle of Bacteria and Biofilms for Your Body").

As biofilms become dismantled, the top layers of infectious colonies get stripped away first, revealing deeper layers. Different pathogens often occupy successive layers, so what worked for the top layer might not work for an adjacent layer. However, prior treatments that had stopped working will probably again begin to work, as successive layers of the biofilm are removed and the current pathogen surfaces. Also, different pathogens will emerge from subsequent layers. So if *Borrelia* is first treated, it won't be in the next layer but ultimately, another layer of *Borrelia* may surface again. Thus, what was used months ago will again prove useful. When you experience a plateau—when neither an improvement nor a die-off (Herx) reaction occurs—it's time to use a new protocol, or return to a protocol that was used previously.

Ironically, even partly eliminating *Bartonella* and *Babesia* makes the *Borrelia* more active—and susceptible to being devitalized—because the co-infections help hide or protect the *Borrelia* from anti-*Borrelia* protocols. Note that after a suitable and aggressive treatment, you may feel worse. But this doesn't mean that the protocol was bad; it means that it's working, which is why there's a die-off (and you feel awful).

Most people with Lyme who consult conventional doctors don't get well, because the only treatment that

Some Favorite Holistic Therapies for Lyme

Attack Pathogens Directly

The following protocols, recommended by top researchers, focus on disabling or killing pathogens and helping to support immune function.

◆ **Pharmaceutical Antibiotics (not the most effective).**

Different forms of Lyme bacteria respond to different medications. Doctors commonly prescribe antibiotics for Lyme, assuming that the infection will be gone after just a few weeks. However, unless the antibiotics are taken within three weeks of being infected, the spirochete has had time to morph into a form that's impervious to the drugs. Also, bacterial resistance often develops before significant levels of the pathogen have been eliminated. Besides, pharmaceuticals are toxic and usually cause more problems than they solve. Many people report having taken strong antibiotics for weeks, months or even years—after which they experience only a brief, partial success followed by a severe relapse, or even no benefit at all. The best way to utilize antibiotics is in conjunction with rifeing. "When pharmaceutical or non-pharmaceutical antibiotics are in use," writes Lyme researcher Bryan Rosner, "rife machine treatments are needed less. In the same way, because of rife machine therapy, pharmaceutical and non-pharmaceutical antibiotics are needed less. . . . Rotating therapies like this also increases the antibacterial effect as you hit the elusive and resilient bacteria from different angles."² Sometimes people use other holistic protocols, especially microbe-killing herbs (discussed shortly), along with the pharmaceuticals.

◆ **Rife Therapy.** Frequencies are an excellent way to destroy pathogens. According to Rosner, Rife Therapy is unparalleled in disabling spirochetes in the bloodstream, and may be the only protocol that doesn't cause the spirochetes to defensively morph into their more dangerous forms. However, as with all protocols for Lyme, the effectiveness of Rife Therapy depends on when it's used. Even the correct frequencies from a powerful, correctly working device may not disable pathogens lurking inside protective biofilms—unless the biofilms are first destroyed. See below.

◆ **Enzymes.** Used to break apart the tough, slimy, protective biofilm layers created by pathogens, enzymes allow antimicrobial agents—whether conventional antibiotics, antimicrobial herbs or Rife Therapy—to be more effective because they'll come into direct contact with the pathogens.

Three enzymes most often used for this purpose are lumbrokinase (from earthworms), nattokinase (from fermented soy), and serrapeptase (from silkworms). (These enzymes are also used to prevent and disperse blood clots, thin the blood, and protect against inflammation. Because they, and perhaps other enzymes, thin the blood, consult a doctor if your blood has problems clotting or if you are already taking blood thinning pharmaceuticals.) Other useful enzymes include bromelain (from pineapple) and papain (from papaya). When using enzymes therapeutically, take them on an empty stomach (at least 3 hours after eating) so they'll get into the bloodstream and dissolve the biofilms instead of being used to digest food. One hour after taking the enzymes, use the method of choice to disable or kill the pathogens. If you fail to do this, you will simply release the pathogens and they'll migrate to and infect other parts of the body.

Dr. Steve Haltiwanger advises taking 1 tablespoon of lecithin with the enzymes. The lecithin helps transport the enzymes through the bloodstream so they'll reach the biofilms. This ensures that wastes and pathogens get dumped into the bloodstream, where they will then be accessible for easy removal.

◆ **Colloidal Silver (CS).** Silver is well known for its ability to destroy one-celled microorganisms. It also helps restore immune function. Some people with Lyme and other severe infections drink one or more quarts of homemade colloidal silver a day, along with other protocols. If there is a lot of die-off causing many symptoms, begin by taking small amounts. For details, see Chapter 3, **Colloidal Silver**.

◆ **Herbs.** *Terminalia chebula*, *Moringa oleifera*, *Cistus incanus*, and neem burst biofilms as well as destroy their inhabitants. They work well for Lyme (usually in combination), although it's a good idea to periodically switch herbs, as each has slightly different properties. Aloe, cat's claw, hydrangea root, olive leaf, and pau d'arco kill pathogens. Olive leaf, *Boswellia serrata*, and chaparral have anti-inflammatory properties. Teasel root relieves inflammation, restores nerves, promotes circulation, strengthens ligaments and bones, and soothes the digestive tract. *Mimosa pudica* ("sensitive" mimosa) very successfully targets Babesia and many co-infections. For Lyme, many sufferers prefer cat's claw and teasel; but everyone is different, so see how you feel. Herbalist Stephen Buhner (www.buhnerhealinglyme.com) has written some excellent books on eliminating Lyme with natural methods.

- ◆ **Essential Oils (EOs).** The essential oil form of an herb is potent. If you take EOs internally, make sure they're labeled food or therapeutic grade (intended for ingestion); dilute them in an edible "carrier" oil such as olive, coconut or sesame; and don't take too much. Peppermint, rosemary, and tea tree EOs inhibit the formation of biofilms, break down biofilms that have already formed, and target the pathogens responsible for producing those biofilms. For details, see Tisserand and Young's *Essential Oil Safety* and buhnerhealinglyme.com.
- ◆ **Salt with Vitamin C.** This "do it yourself" salt-and-C protocol gained prominence after being reviewed in a 2007 edition of *Townsend Letter*. For many people, the protocol promises not only significant relief but the permanent elimination of pathogens. The customary amounts for adults are ¼ teaspoon of pure sodium chloride along with an equal amount of Vitamin C (or 1 gram of each), taken at the same time. One teaspoon of salt equals about 6 grams. Approximately 8 to 16 grams of salt are ingested per day. Amounts taken should be relative to body weight. Thus, small children might ingest 4 to 6 grams each of the salt and Vitamin C daily.

The salt and C are taken every hour, 12 times a day—or as many times as you can tolerate. Some people start with salt and Vitamin C three times a day and gradually increase the amounts.

Commercial table salt is never used because it contains harmful additives (see Chapter 3, **Water**). Opinions differ on using purified salt vs. natural unprocessed salt such as Celtic sea salt, which not only lacks additives but contains additional minerals. Although highly beneficial, the presence of these other minerals may make it difficult to assess how much sodium you're getting. Many people prefer 1-gram sodium chloride USP tablets (pharmaceutical grade), available without prescription from most pharmacies. (See Appendix A for sources.) These tablets contain pure sodium and do not need to be measured. As for Vitamin C, most forms are acceptable. However, the buffered, non-acidic form is better tolerated than plain ascorbic acid.

How does the salt-and-C protocol work? To survive, all microorganisms rely on a delicate balance of sodium and potassium. The increase of sodium which causes a (default) decrease of potassium upsets the balance, causing the spirochete's death. A human can tolerate much more sodium than a pathogen can. Salt also increases the activity of elastase, an enzyme. This enzyme, released by a type of white blood cell, helps destroy pathogens. The Vitamin C helps rebuild and detoxify cells, and restores immune function.

This protocol is safe if you follow two guidelines. First, drink at least 8 ounces of water with each measured quantity of salt and Vitamin C. Because both salt and Vitamin C are water-soluble, drinking enough water will ensure that whatever is not being used is excreted.

The second guideline requires professional help. Many people are low in potassium. Excess sodium and not enough potassium can cause muscle pain and atrophy, and even cardiac failure. Seek medical supervision to ensure that your systemic levels of potassium and Coenzyme Q10 are sufficient.

This protocol is generally followed for six months after one's health seems normal, because Lyme in its cyst form can lie dormant in the body.

- ◆ **Hyperbaric Oxygen Therapy (HBOT) and Ozone.** These therapies feed all the cells in the body while disabling pathogens. See Chapter 3, **Oxygen Therapies**, for more information.
- ◆ **Colostrum or a constituent, Proline-Rich Polypeptides (PRPs, also known as Transfer Factors).** PRPs are tiny immunity molecules found in the colostrum of a nursing mammal for the first few days after the mother gives birth. For more information, see Chapter 1, **The Vaccine Controversy** and the **AUTOIMMUNE DISORDERS** listing in this chapter.

Nutritional Support

Fake foods and processed foods will cause severe setbacks. This includes not only sugars, but all kinds of foods containing sugars (such as fruit); heat-processed vegetable oils (such as canola); and factory farmed meats. Like sugar, carbohydrates feed pathogens and cause blood sugar spikes and other health problems, so grains (either refined or unrefined) should be limited or avoided entirely until health is restored. Seeds and selected nuts (pumpkin, sesame, almonds, walnuts, buckwheat, teff, quinoa) are a better choice; but again, most of them are high in carbohydrates so they should be eaten sparingly. Most Lyme sufferers require a so-called Paleo diet. This includes clean animal protein (such as naturally raised, grass fed beef, lamb and goat; wild caught fish; organic chicken; and pastured eggs), lots of non-starchy vegetables (especially leafy greens), and if tolerated, some seeds and nuts. Hormones tend to become very impaired in people with Lyme. The body requires fats to produce hormones, so good fats—found in coconut and olive oils, grass fed beef, and wild caught fish—are essential. Molecularly distilled fish oil can be used if clean fish is not available.

Many nutrients become depleted. It's unlikely that they can be replenished through food alone, so supplementation is suggested. These nutrients include:

- ◆ **Lithium Orotate.** The mineral lithium (*not* the drug lithium carbonate) is a vital nutrient. Lithium's ability to protect the brain make it ideal for people whose brains are severely affected by *Borrelia* toxins. Most people take between 5 mg and 15 mg, and sometimes even 30 mg a day. Medical doctor Jonathan Wright says that he administers up to 40 mg a day (depending on the need) without unwanted effects. See Chapter 1 Sidebar, page 25.
- ◆ **Manganese.** The Lyme pathogen feeds on this mineral, so levels tend to be low. Manganese helps build bone, regulates hormones and metabolic functions, assists the formation of connective tissue, and regulates blood sugar levels.
- ◆ **Magnesium.** Unlike other bacteria, the Lyme spirochete utilizes magnesium, rather than iron, to proliferate. Thus, Lyme sufferers tend to have a severe magnesium deficiency—exacerbating the magnesium deficit often seen in the population as a whole. Magnesium in the form of magnesium *malate* breaks up lactic acid accumulations that cause muscular pain. A very absorbable, assimilable form of magnesium is magnesium *chloride*. An inexpensive form of magnesium chloride is sold as flakes of nigari, the coagulating agent used to manufacture tofu. A mixture of these magnesium flakes in water or witch hazel to saturation yields magnesium "oil," called this because of its oily consistency. When rubbed on the skin, a large amount of magnesium immediately gets absorbed into the bloodstream, bypassing the digestive tract where it could cause loose stools. With transdermal absorption, much more magnesium can be taken. (If the skin itches too much from the magnesium, wet with water or use witch hazel in the formula.)
- ◆ **Coenzyme Q10.** This vital nutrient is used as an antioxidant and for energy production. It also protects the nervous system and boosts immunity. Critical for healthy heart function, Coenzyme Q10 is deficient in people with Lyme.
- ◆ **Zinc.** Zinc is an essential mineral and is involved in just about every bodily function you can imagine. It's utilized by immune cells to tag, attack, and eliminate pathogens. It's used to make DNA and hormones, it promotes digestion, and reduces inflammation. It also chelates heavy metals.
- ◆ **Vitamin C.** It helps form collagen (a component of all tissues), protects cell membranes (and prevents pathogens from entering the tissues), neutralizes free radicals and toxins, repairs wounds, helps synthesize hormones and neurotransmitters, and more. Human bodies can't make Vitamin C and must receive it from foods and nutritional supplements.

- ◆ **Alpha Lipoic Acid (ALA).** A powerful antioxidant, ALA is unusual because it's active in both water-soluble and fat-soluble areas of the cells and tissues of the body. It also regenerates Vitamins C and E, making them active in the body for longer periods.

Chelation: Two Protocols

The word chelation comes from the Greek word for "claw." A *chelator* is a substance that chelates, or binds to, heavy metals and some chemical toxins. Chelation therapy uses vitamins, minerals, antioxidants, and other ingredients to draw out and bind toxins that the body then excretes. Some chelators excel at drawing out contaminants from the tissues, while other chelators are better at binding to the contaminants once they're out of the tissues and are freely circulating in the bloodstream.

Heavy metals that commonly need to be chelated out of the body include aluminum, antimony, arsenic, cadmium, lead, mercury, and thallium. Heavy metals usurp the receptor sites of the valuable minerals that we need. Metals are also carcinogenic and cause extensive damage to all systems in the body. Finally, Lyme, *Candida albicans*, and other harmful microbes feed on heavy metals, so this major food source for them must be removed in order to help eliminate them.

Health professionals have widely varying opinions on the best way to do chelation. The administration of intravenous (IV) chelators requires numerous visits to a doctor's office, and the cost is prohibitive for most. Therefore, I will focus on two "do-it-yourself" methods.

Popular Protocol (contradicts Cutler Protocol, next)

Chelators either *pull* metals off the tissue receptor sites (*Group 1*), or *bind* to metals once they're off the receptor sites and in the bloodstream (*Group 2*). If you ingest Group 1 chelators only, the metals will be dislodged but will then get dumped back into the bloodstream, where they can migrate elsewhere in the body and cause even more damage. Just a few chelators include:

- ◆ **Zinc (Group 1).** This beneficial mineral pulls heavy metals off the receptor sites of the body's tissues.
- ◆ **Vitamin C (Group 1).** This essential nutrient combines with harmful minerals, creating a new water-soluble compound that's excreted in the urine. However, Vitamin C also binds to beneficial minerals, so supplement to replace minerals that have been lost.
- ◆ **Cilantro (Group 1).** The leaves of an herb, cilantro is often eaten as a garnish in Indian cooking. It's highly effective as a chelating agent and is most useful in that capacity when used as a tincture, *along with a chelating agent from Group 2, especially chlorella*. Amounts are 2 drops 2X day, gradually increasing the amount to 10 drops 3X a day.

- ◆ **Chlorella (Group 2).** This single-cell green algae should be “broken cell wall.” This means that its indigestible cellulose is cracked under low heat to make it bioavailable. A common dose is one hour before food and 30 minutes before the cilantro is taken. Chlorella amounts are 1 gm 3–4X a day, increasing to 3 gm 3–4X times a day. In “Dosing with Chlorella / Cilantro for Neurotoxin Elimination,” Dr. Mark McClure distinguishes between lower amounts that mobilize metals in the gut only, and higher amounts (up to three times the mobilizing dose) for systemic chelation.³ For more details, read his book.
- ◆ **EDTA / Ethylene-diamine-tetra-acetic acid (Group 2).** This synthetic amino acid was first used in the 1940s for treatment of heavy metal poisoning. It both binds *and* removes heavy metals and many other toxins. Holistic practitioners use EDTA intravenously; but it can also be taken orally as a powder or in a rectal suppository. (EDTA also significantly reduces the risk of heart attacks. One famous Swiss study found a 90% reduction in cancer mortality after EDTA chelation therapy.⁴) Be careful, though! EDTA leaches out zinc, magnesium and calcium from the tissues as well, so these valuable minerals must be replaced.
- ◆ **Activated Charcoal and Zeolite (Group 2).** These are inert adsorbents (not a typo). During adsorption, the atoms, ions or molecules of a toxic substance adhere to an adsorbent. There’s no chemical change; the charcoal or zeolite are simply drawing other materials to them, which attach to their surfaces. Charcoal is specially prepared coconut shell or wood. Zeolite is a naturally-occurring mineral. Both bind to toxins in the gut. Normally, the liver detoxifies by dumping noxious substances into the bile. However, bile recirculates in the body about a dozen times. This allows the poisons to relocate and lodge in any organ or tissue. A binding agent in the gut ensures that the toxins in the bile are excreted with the feces instead of being recirculated in the bloodstream. (For details, see Chapter 3, page 470.) However, keep in mind that these alone cannot be used for a heavy metal detox because they don’t pass into the bloodstream, but remain in the digestive tract.
- ◆ **Sodium Alginate (Groups 1 & 2).** Extracted from brown algae (*Laminaria japonica*), sodium alginate pulls metals and radioactive particles from the blood and tissues. It also binds to these materials in the digestive tract. Take 3 capsules 3X day (preferably on an empty stomach), twice a year for six weeks at a time, to ensure sufficient protection.

Cutler Protocol (contradicts Popular Protocol, prior)

After being poisoned with mercury, Princeton University research scientist Andrew Hall Cutler, PhD (recently deceased) utilized his training in biochemistry to develop this protocol. Only the basics are presented here; biochemistry details and all “how to” aspects can be found online and in his informative book, *Amalgam Illness: diagnosis and treatment*. For some, Cutler’s is the only protocol that works. Some parents report that their children completely recover from autism after eliminating mercury from the body.

Some chelators are complete or thorough (genuine) and some are incomplete (pseudo). True chelators are dithiols: they contain two thiol or sulfur groups (also called “sulfhydryl” groups). The sulfhydryl groups are spaced at the correct intervals to encapsulate heavy metal ions, forming a bond that’s strong enough to not only dislodge the metals from wherever they’re located, but also to hold on to them tightly and safely. In comparison, incomplete chelators contain only one thiol group; their ability to bind to metals is weak. The metals are dislodged from wherever they’re being stored, but they usually become dislodged again before the body can bind and excrete them. Thus, incomplete chelators simply move the metals from one location to another, which—depending on where the metal migrates—can cause more symptoms and make one’s condition worse, especially if the metals leave the bones and fat to lodge in the brain, nerves, liver, or hormone-producing glands. Cutler emphasized not to use the following *for chelation*. (People not burdened by heavy metals can safely use these ingredients, which under the right circumstances are highly beneficial.)

- ◆ **Don’t use Chlorella.** As an incomplete chelator, with only one thiol group, it can redistribute metals. Also, in nature it tends to absorb metals.
- ◆ **Don’t use Cilantro.** As an incomplete chelator, with only one thiol group, it can redistribute metals. Also, its biochemical mechanism is unknown.
- ◆ **Don’t use Cysteine or N-Acetyl-Cysteine (NAC).** As an incomplete chelator, with only one thiol group, it can redistribute metals.
- ◆ **Don’t use EDTA—yet.** It does increase the amount of mercury excreted in the urine, but it doesn’t chelate mercury from sensitive tissues (brain, liver, thyroid and adrenal glands), and instead moves mercury *into* them. However, after alpha lipoic acid eliminates mercury, EDTA can be used effectively to chelate lead, and to clean out clogged arteries.
- ◆ **Don’t use Glutathione.** As an incomplete chelator, with only one thiol group, it does pull mercury out of tissues but then tends to redistribute it.

Even dithiol group chelators, however, are safe and effective only when used correctly. Another vital component of Cutler's method is the *timing* of when one ingests a chelator. "Half-life" refers to the amount of time it takes for the concentration of a substance to be reduced in the body by one-half. To prevent redistribution of metals into the tissues due to a weakened dose, a fresh supply of chelating agent must be taken at the very moment that it's half as strong as it was when first ingested. To ensure that there's always the highest level of chelator in the system, an exacting schedule must be followed. This means setting an alarm clock and awakening in the middle of the night to take the next dose. Those who are willing to adhere to this rigid schedule will have low—but stable—blood levels of chelators, which means that metals will be moved out of the body consistently and steadily.

Most tests that determine which metals are in the body are inaccurate, so Cutler discouraged them. (Also, mercury can't be detected directly; it hides in body tissues.) Cutler also taught a precise schedule of what to take for which metals (each chelating agent has an affinity for a different set of metals), in what order, how many days one should take a chelator and how many days one should rest, how to increase doses, and what to do if one detoxifies too quickly. Chelation is done in phases. The subject chelates for a certain number of days (usually three or four, occasionally up to fourteen), and rests for a certain number of days (usually three or four). Rest periods are important, as they give the detoxification channels a chance to restore themselves. The subject always begins with very low amounts of chelation agents and gradually increases the doses. However, everyone is different, so let yourself be guided by how you feel.

Chelators Used:

- ◆ **Alpha Lipoic Acid (ALA).** Removes mercury, arsenic, and antimony. Half-life: 3 hours. Water-soluble and fat-soluble, it's able to cross the blood-brain barrier and thus remove metals from the brain. Although ALA can remove mercury by itself, for some people DMSA and DMPS help alleviate some unpleasant symptoms during the removal process. *Wait three months to begin this protocol if you've been exposed to mercury.*
- ◆ **DMSA (Meso-2,3-dimercaptosuccinic acid).** Removes mercury, cadmium, antimony, arsenic, and lead. Half-life: 4 hours. Cannot cross the blood-brain barrier. It's used in conjunction with ALA.
- ◆ **DMPS (2,3-Dimercapto-1-propanesulfonic acid).** Removes mercury and arsenic. Half-life: 8 hours. Cannot cross the blood-brain barrier. It's used in conjunction with ALA.

Before Undergoing Cutler Protocol:

- ◆ *Don't chelate if you still have mercury fillings in the mouth.* Mercury amalgam fillings outgas. Get them removed first, and then wait three months before undergoing a mercury chelation program.
- ◆ *Fix glandular issues.* Many metal-toxic people have stressed thyroid and adrenal glands, which should be balanced (if possible) before chelation.
- ◆ *Don't do "challenge" testing.* "Challenge" tests, conducted to see if a toxic metal is indeed in the body, will make the problem worse.
- ◆ *Don't do intravenous (IV) chelation except for Vitamin C.* Cutler was against IV chelation for two reasons. (1) The half-life of a chelator isn't considered and all of the chelation ingredients are mixed together in one solution and administered together. (2) The doctors and naturopaths who administer the IVs use some ingredients that are incomplete chelators, which can worsen the problem.

While Undergoing Cutler Protocol:

- ◆ *Do not take chelators unless you follow their half-life schedule.* If you chelate improperly, the metals will be pulled out of the tissues without being excreted, which will make you even more ill.
- ◆ *Follow a Paleo diet.* Caffeine, alcohol, sugars, high levels of carbohydrates (grains and flours), fake and junk foods, and even fruit must be avoided. (See "Nutritional Support" in this Insert, page 623.)
- ◆ *Take the following while chelating:* Vitamins and minerals, Coenzyme Q10, liver support (milk thistle), some amino acids, and appropriate herbs.
- ◆ *Don't take ALA as a supplement, but as part of the metal removal protocol.* ALA is a highly effective antioxidant, but it must be used properly.
- ◆ *Don't rush the process.* People can make themselves seriously ill if the body is pushed to excrete more contaminants than it can comfortably process.
- ◆ *Use a sauna.* The effortless release of toxins through the skin helps most people feel better, faster. However, it may not be necessary to do Cutler's protocol if you have regular access to a sauna; see the bottom of this page.

How Long To Do Cutler Protocol:

- ◆ *Ideally, for 6–12 months after relief is obtained.* Some people chelate for several years.

There's one more, very different protocol, which uses sauna therapy, optional exercise, and niacin and other nutritional supplements. Some find it easier. See page 696.

establishment medicine offers is antibiotic drugs. Drugs can help if you take them within three weeks from the date of infection. After that, the spirochete has established a strong presence, has likely changed form, and has likely already produced biofilms. To bypass the bacterial defenses, doctors occasionally have success administering on-and-off doses of different types of antibiotics (which is not how these drugs are normally used). However, pharmaceuticals are very toxic to the liver and other organs, and may not work. They can also negatively interact with other drugs, herbs, and even foods.

Entirely new species of organisms have been discovered that are part of the Lyme disease complex. Worm-like creatures are making their homes inside the biofilms along with the “regulars” (*Borrelia*, *Bartonella* and *Babesia*), and migrate anywhere in the body. The continued existence of these worm-like creatures helps perpetuate the existence of other pathogens. Moreover, it appears that these worm-like pathogens have merged with *Borrelia*—creating a hardy, new hybrid organism. So, killing *Borrelia* alone is no longer sufficient; the worms must be killed too. Physicians may prescribe pharmaceutical or herbal antiparasite agents (or both) to kill the worm-like creatures, and also destroy *Borrelia*, *Bartonella*, and *Babesia*. Some of these anti-worm preparations can degrade biofilm and accentuate the effectiveness of other Lyme treatments. The drug Ivermectin is a possibility. Tinidazole, an anti-parasitic drug widely used in Europe against protozoa infections, is reported to be effective because it doesn’t cause the “Lyme defense mechanism” that so many antibiotics trigger. However, it’s still a strong drug, and understandably most Lyme sufferers cannot tolerate pharmaceuticals.

Someone with Lyme might not experience extreme symptoms if the spirochetes are encased in biofilm. “If your infections and toxicities are left alone without treatment for long enough, the body reaches a sort of homeostasis, or equilibrium, wherein you may feel a lot better than you actually are,” writes Bryan Rosner, author of books on Lyme. “A person who has not yet treated their infective colonies aggressively may only be experiencing symptoms which are the tip of the iceberg. The [bacteria] can become established in a stealthy and quiet fashion, and it is only when you begin to remove them that you realize how bad they really are. This is quite different from most other kinds of health problems, wherein your feeling of how sick you are is pretty closely tied to the reality of how sick you are.”⁹⁵ Once the pathogens are released from their fortress, their presence in the bloodstream can cause inflammation and toxicity; so remain calm.

Healing Lyme requires an individualized, multifaceted, flexible approach. The biggest challenge to healing is knowing what the body needs at the moment—which can change from week to week or even day to day. Sometimes, the focus should be on killing the Lyme. Other times, it’s nutritional support. Still other times, one must focus on detoxification to eliminate the wastes caused by the Lyme

(and the body’s response to it). And still other times, the person may need to focus on correcting the damage to the nerves and brain, endocrine glands, immune cells, digestive tract, or even the muscles, eyes and bones. What works for one may not work for another. And what worked for someone yesterday may not work today. Or, even more frustrating, what worked for someone in the morning may not work for that same person in the evening!

Lyme sufferers must ask themselves: “Which pathogens involved in Lyme and its co-infections are currently the most active? Also, are the immediate main health issues related mostly to pathogens, or to the systemic problems that have escalated as a result of being ill?” Rosner classifies Lyme sufferers into two categories: those whose symptoms are caused primarily by infections, and those whose symptoms are primarily due to other, non-infection issues, such as allergies or hormone imbalances. These distinctions are important—because if the primary issue is pathogens, nutritional supplements and hormone therapies will have minimal impact on overall wellness. Likewise, if the primary issue is allergies due to a leaky gut, or hormone imbalances due to toxins, Rife Therapy and antimicrobials will have minimal impact. Therefore, the challenge to eliminating Lyme is knowing what issue needs to be addressed at the time so the correct protocol can be used. Note, too, that when one pathogen recedes or is eliminated, another may erupt. Thus, it’s important to catalogue any symptoms you’re feeling so you (and your health practitioner) know which pathogen (if any) to focus on eliminating next.

Lyme, its co-infections, and their toxins make it difficult to maintain emotional balance (see Sidebar, “Pathogens Subvert Our Brain Chemistry”). You may experience anxiety, memory loss, depression, aggressiveness, obsessive-compulsive behavior, and even schizophrenia and suicidal tendencies. Many people with Lyme despair, believing that their health will never improve. Despite appearances, though, these psychological displays are not individual character defects, but indicate damage to the sensitive brain and nerve tissue that have been invaded by the drilling spirochetes. “Once people understand that their emotional states are in fact rooted in physical degeneration,” writes Rosner, “it can be much easier to deal with the symptoms and say to oneself, ‘I’m not going to let these feelings dominate me, because I know they...aren’t really who I am.’”⁹⁶

Finding a way to maintain hope is critical to healing. Practitioners recommend that even after apparent success from rifting, continue for six months to one year to make sure all stray pathogens are eliminated. Your protocol also includes any herbs and supplements that have helped you.

Rife Therapy can kill *Borrelia*, but only when the pathogen is in its spirochete form, circulating through the bloodstream. A “Doug device” (named after the inventor) and its offshoot, the “coil” machine, can reach and disable pathogens with frequencies delivered via a magnetic field.

Pathogens Subvert Our Brain Chemistry

Bacteria, viruses, fungi, protozoa, and worms are all parasitic. They “grow, feed, and [are] sheltered on or in a different organism while contributing nothing to the survival of its host.”⁶ Parasities affect their hosts mentally and emotionally as well as physically. Some “directly or indirectly interact with host nervous systems, leading to a change in host behavior. . . . [that often] enhances parasitic transmission . . . Parasites can affect host behaviour by: (1) interfering with the host’s normal immune–neural communication, (2) secreting substances that directly alter neuronal activity via non-genomic mechanisms and (3) inducing genomic- and/or proteomic-based changes in the brain of the host. . . . Parasites typically induce a variety of effects in several parts of the brain. . . [such as] the thalamus, brain stem and basal ganglia.”⁷

Bryan Rosner applies this understanding to the Lyme pathogen specifically, whose toxins sabotage our behavior and attitudes for its own benefit.

As scary as it sounds . . . parasites actually take control of their host’s mind. . . . With Lyme disease, the most common manifestation of this phenomenon seems to be that parasites limit a person’s drive, ambition, and motivation to get well. Somehow, people are convinced that they are not that sick, and that aggressive treatment is not required or desirable. This is one of the reasons why it is so important to be under the care of a good doctor who can prescribe the necessary treatments. Be aware that you may have been pacified by the parasites in your body, and you may need to work diligently to get well despite the feeling that your problem isn’t urgent.⁸

However, emissions from these units are very strong and harm some sensitive people. The Beck magnetic pulser is milder and safer. Another magnetic unit, the hand-held Magnetex[®], which works by pulling debris from the tissues, may be especially helpful. According to one doctor, the Magnetex[®] successfully draws out even dormant pathogens from the spinal fluid. To increase cell voltage, try the Avazzia[™] or the Tennant Biomodulator[®]. Each person responds differently, so experiment to see which unit works best for you. See Appendices A and C for details about these machines.

Except where indicated, the frequencies below do not distinguish between *Borrelia* varieties. Lyme often occurs with othe (see Chapter 3) r similar illnesses carried by the same insects, so also see “*Ehrlichia chaffeensis* / Ehrlichiosis” and “*Rickettsia rickettsii* / Rocky Mountain Spotted Fever”

in this **BACTERIA** section; and **PARASITES, PROTOZOA AND WORMS**, “*Babesia* / Babesiosis.” Also see, under **CHEMICAL SENSITIVITY / POISONING**, “Mercury, Aluminum, and Other Contaminants,” because the pathogens feed on heavy metals. In addition, what is believed to be a new parasite has recently been discovered in people with Lyme, so also see **PARASITES, PROTOZOA AND WORMS**, “*Funis vermis* / *Homo Funis vermis* / Ropeworm.”

Clinicians have found thyroid underactivity in many people with Lyme. Hypothyroidism lowers immune function, making one more susceptible to contracting Lyme; but conversely, the *Borrelia* spirochete and its toxins can impair the gland. See **GLANDS, Thyroid**, “Thyroid, Underactive / Hypothyroidism.” Also see entries under **GLANDS, Adrenals**, as Lyme puts enormous stress on the adrenals, which require extra support. Some people have reported supplementary help using “Blood, to Clean,” under **REGENERATION AND HEALING**.

Dr. Dietrich Klinghardt has reported that all of his electrosensitive clients have Lyme. When exposed to electrosmog, pathogens perceive that they’re being attacked and increase their production of biotoxins. These *Borrelia* poisons eat away at the protective fatty myelin sheath surrounding the nerves, causing the host to become even more electrosensitive. Therefore, also see **REGENERATION AND HEALING, Electrical Sensitivity, to Reduce**, along with applicable frequencies under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

One critical hidden cause of susceptibility to Lyme disease is mold toxins. Even if mold is killed, its toxins remain in 25% of the population. Bryan Rosner reports experiencing success in all of his Lyme protocols once he used ozone to neutralize and eliminate mold toxins (see Chapter 3). Also see **CANDIDA, FUNGI, MOLDS AND YEASTS**.

The following four blocks of frequencies were tested in a Romanian laboratory by colleagues of Jimmie Holman. The manufacturer emphasizes that these frequencies might not work on units other than those manufactured by Pulsed Technologies.

Main program: 34086, 41055, 55055, 55062, 58443, 72912, 74520, 75141, 78864, 86940

For more help, try: 24304, 26288, 34086, 34224, 38115, 41552, 54027, 54096, 54234, 53303, 55055, 56810, 57040, 56925, 58305, 58374, 58443, 58512, 72912, 77715, 78864, 79534, 79695, 79856, 83655

Then try: 24840, 25047, 28980, 29095, 35955, 40894, 41055, 41400, 41745, 50094, 50148, 50163, 50232, 52164, 52371, 52578, 52785, 54924, 54993, 55062, 55131, 58443, 59925, 63756, 64009, 64262, 64515, 65025, 74520, 75141, 75348, 75647, 75946, 76245, 83490, 83895, 83605, 86940, 87630, 87975

And then try: 34086, 41055, 41124, 41193, 41262, 42978, 51888, 51957, 52026, 52095, 57960, 58098, 58167, 58236, 68425, 68540, 68655, 68770, 86250, 86365, 86480, 86595, 86710, 86825, 89845

Works well for some: 10226 for first three months, then 10228 after that, because the pathogen mutates. One practitioner eliminated Lyme with these frequencies.

The following frequencies work when using a Doug Coil machine, but be aware that there's no guarantee they will work when run on other equipment: 432 and 612 (it can take up to 30 minutes before seeing results).

From Dr. John Garvey: 254, 644, 605, 673, 797, 1455

From Dr. Richard Loyd: 587

Also try: 410, 433, 2016

Some rifers have found these helpful (use for 5 minutes each, if you can tolerate that long): 840.6 and 2016

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 378950 (lowest), 380K (optimal), and 382K (highest)

Hz set: 939.32 (lowest), 941.93 (optimal), and 946.88 (highest)

Also from Clark: 18919.09

Borrelia afzelii: 796 (from Dr. Loyd)

Borrelia burgdorferi: 380K

Borrelia garinii: 382K

***Borrelia* Toxins, to Lower and Neutralize Inflammation**

High levels of cytokines, present because of pathogenic toxins, cause inflammation that lead to many different types of symptoms: muscle and nerve aches and pains, brain fog, fatigue, chills, and sweats.

First try: 111103, 446611

Also try: 3, 20, 33, 72, 95, 125, 146, 148, 300, 330, 333, 444, 522, 555, 787, 727, 880, 10K, 1865, 12595

Pathogens that inhabit the Lyme spirochete

From Dr. Jeff Sutherland. Run each for 6 minutes unless otherwise noted: 444444 (1–2 hours), 20070324, 644736, 544444, 333667, 243331, 133332, 73445, 43776, 24566

Branhamella catarrhalis* / *Moraxella catarrhalis

Causes acute infections in the ear, sinuses and respiratory tract, and life-threatening diseases in the heart and brain.

579, 581, 687, 678, 770, 772, 775, 778, 2013

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 394900 (lowest), 396K (optimal), and 396700 (highest)

Hz set: 978.86 (lowest), 981.59 (optimal), and 983.32 (highest)

***Brucella*, all types**

Brucella strains are most known for causing undulant fever in animals and sometimes humans. The government calls it a “potential bioterrorism agent.” One report says that *Brucella suis* “was the first pathogenic organism weaponized by the U.S. military during the 1950s.”¹⁰ *Brucella* may be implicated in Multiple Sclerosis. For more frequencies that are highly accurate, go to dnafrequencies.com.

Brucellosis / Brucelliasis / Undulant Fever

Brucella family pathogens cause Brucelliasis, or undulant fever. Symptoms in cattle, sheep and goats include convulsions, enlarged spleen, overheating, and swelling of joints. Symptoms in humans include fever; headache; weakness; fatigue; constipation; pain in nerves, bones and muscles; sweating; a tender and enlarged spleen; and even depression. See below.

Brucellosis / Brucelliasis / Undulant Fever

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***Brucella abortus* / Bang's bacillus / Undulant Fever**

This fever, in cattle, causes convulsions, enlarged spleen, overheating, and joint swelling.

From Dr. John Garvey: 1423

***Brucella melitensis* / Undulant Fever, another form**

This fever, in goats and sheep, causes convulsions, enlarged spleen, overheating, and joint swelling.

748 (from Dr. Garvey), 643, 695

Campylobacter

Causes sudden infectious diarrhea in newborns and adults.

From Dr. Richard Loyd: 333 + 523 + 768 + 786, 378, 705.86, 732, 733, 1633, 1834, 2222, 2823.5

If You Have Lyme, Check for Mold Toxins

The more ozone . . . I did . . . the more I realized that “Lyme disease and co-infections” aren’t the primary problem in this chronic illness. . . . Mold is. . . . Lyme disease is just an opportunistic infection which happens to thrive in the presence of mold exposure. . . . This doesn’t make the damage caused by Lyme less important [but] Lyme is only there in the first place because of mold exposure.

—Bryan Rosner,
excerpts, *Lyme and Supercharge*, 2019

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 352K (lowest), 355K (optimal), and 357200 (highest)

Hz set: 872.52 (lowest), 879.96 (optimal), and 885.41 (highest)

Chlamydia pneumoniae

Sometimes called *Chlamydophila*. Major respiratory pathogen, makes one more at risk for heart attacks, strokes, and Alzheimer's. Sometimes implicated in Multiple Sclerosis. If your unit can't do decimals, round up or down to the nearest number and sweep. Run each frequency for 5 minutes.

875 (from Dr. Loyd), 470.9, 471.66, 479, 620, 940.1, 941.8, 942, 942.9, 943.3, 1880.1, 1885.9, 3760.3, 3767.3, 3771.7, 3773.3, 7520.5, 7543.4, 4710.5

Chlamydia trachomatis

Sexually transmitted bacterium that can cause urethritis (inflammation of the urethra or urinary tube), conjunctivitis (inflammation of the eye), and proctitis (inflammation of rectum and anus). It also causes lymphogranuloma venereum (venereal disease, featuring inflammation and ulceration of the lymph glands). If not treated, an infection from this pathogen may cause miscarriage and infertility in women. It can be passed to infants in the birth canal, causing eye infections and pneumonia. This organism may play a developmental role in cancer and Multiple Sclerosis, so see a doctor. Also see "*Chlamydia pneumoniae*," above; and "Lymphogranuloma venereum (LGV)" under **MEN, Penis** or **WOMEN, Vagina, Labia and Clitoris**. Also see **CANCER**, "Uterine Cancer or Tumor," as pelvic inflammatory disease (PID) caused by *Chlamydia trachomatis* has been associated with a greater risk of developing ovarian and cervical cancer.

From Dr. John Garvey: 430, 620, 624, 840, 2213

Also try: 430, 555.7, 866, 1111.4, 2222.8

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 379700 (lowest), 381K (optimal), and 383950 (highest)

Hz set: 941.18 (lowest), 944.40 (optimal), and 951.72 (highest)

Also from Clark: 18968.87

***Chlamydia psittaci* / Parrot Fever / Ornithosis / Psittacosis**

Chlamydia psittaci causes infectious pneumonia that's transmitted, through feces and respiration, by birds in the parrot family and other species. Symptoms include appetite and weight loss, difficulty breathing, depression, tucking in of the head, diarrhea, eye and nose discharge,

and sudden death. Sometimes humans are affected in the respiratory tract.

583, 1217 (both from Dr. Garvey), 233, 331, 332, 859

Citrobacter amalonaticus

An anaerobic bacterium found in the soil, air, water, and the digestive tracts of humans and bats. This pathogen usually isn't addressed in blood and stool tests because it's common and normally doesn't cause problems. However, it can cause severe infections in people with weakened immunity. Most common symptoms include diarrhea, and on rare occasions, urinary tract infections.

From Dr. Richard Loyd: 755

Citrobacter freundii

Found in soil, intestinal tract and food, causes infections of digestive, urinary and respiratory tracts and blood, and can have a high mortality rate (22%).

From Dr. Richard Loyd: 446

***Clostridium botulinum* / Botulism (food poisoning)**

A toxin, commonly from spoiled food, that attacks nerves. Symptoms typically begin between 12 and 36 hours after toxin is ingested. Causes muscle weakness and paralysis starting in the face (with difficulty swallowing), and gastrointestinal distress (nausea, vomiting, cramping).

From Dr. John Garvey: 518

***Clostridium difficile* / Pseudomembranous Colitis**

Clostridium difficile forms spores in the colon, producing a toxin that causes frequent, foul smelling, watery diarrhea. When bloody mucus-filled diarrhea, abdominal cramps, and abnormal heart rhythm appear, the condition is called pseudomembranous colitis. If this pathogen migrates to the brain in children, it causes autism. These conditions usually develop after antibiotics are ingested and the beneficial intestinal flora are overpowered by *Clostridium difficile* and other pathogenic bacteria.

678 (from Dr. Loyd), 387, 635, 673

***Clostridium tetani* / Tetanus / Lockjaw**

Infectious and painful, with continual contraction of some involuntary muscles. Spasms are focused in the jaw, throat, and face. Tetanus is often contracted by being punctured with a rusty nail. The homeopathic remedy *Ledum* is commonly used to treat this condition.

From Royal Rife, possibly used on his #4 machine: 234K

Also try: 554 (Garvey) 120, 244, 352, 363, 458, 465, 600 + 625 + 650, 628, 660 + 690 + 727, 787, 880, 1142

Clostridium paraputrificum

Rare causes of septic arthritis, sepsis, sickle cell anemia.

From Dr. Richard Loyd: 444

***Corynebacterium diphtheriae* / Diphtheria**

Diphtheria, caused by *Corynebacterium diphtheriae*, is rare in the United States. Symptoms of this infection include sore throat, fever, rapid heartbeat, nausea, chills, and headache. This bacterium may also cause heart and nerve damage due to microbial toxins.

151, 340, 432, 590, 624, 776, 788, 925

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 340K (lowest), 342K (optimal), and 344K (highest)

Hz set: 842.78 (lowest), 847.73 (optimal), and 852.69 (highest)

***Corynebacterium minutissimum* / Diphtheria**

Causes blotchy red skin infection, common in heat.

From Dr. Richard Loyd: 488

Corynebacterium striatum

Causes wide range of infections.

455

Cutibacterium acnes

Colonizing the skin, this bacterium not only causes acne (a common skin condition), but has been implicated as the leading cause of infection in prosthetic joints, particularly in the shoulder.

From Dr. Richard Loyd: 368

***E. coli* / *Escherichia coli*, including Rod Form and Mutant Strains**

Often found in colon and infected wounds. If you develop a cold after using these frequencies, see “Adenovirus” entries under viruses. Royal Rife used the older name for this bacterium is “*Bacillus coli*” (“*B. coli*”).

From Royal Rife, possibly used on his #4 machine:

417K (rod form); 770K (filterable virus)

From Dr. Richard Loyd: 468, 667, 745

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 392K (lowest) and 393K (optimal and highest)

Hz set: 971.67 (lowest) and 974.15 (optimal and highest)

Also from Clark: 356K or 882.44 (for units unable to output KHz) and 17724.20, 19566.32

Also try: 468, 667, 745 (three from Dr. Loyd), 282, 289, 327, 332, 333, 358, 413, 539, 548, 552, 642, 787, 798, 799, 800, 802 + 1550, 804, 832, 834 (for 10 minutes) 880, 957, 1320, 1550 to 1552, 1722, 1729, 7847, 7849, 12872

***Ehrlichia chaffeensis* / Ehrlichiosis**

All *Ehrlichia* strains, including *Ehrlichia chaffeensis*, cause human monocytic Ehrlichiosis, transmitted by ticks and other insects. Symptoms can include anemia, fever, headache, nausea, vomiting, muscle pain, respiratory disturbances, and in severe cases meningitis and kidney failure. Frequencies for *Ehrlichia ewingii* and *Ehrlichia phagocytophila* are available at dna-frequencies.com.

Ehrlichiosis is often present with other pathogens carried by the same insects, so also see “*Rickettsia rickettsii* / Rocky Mountain Spotted Fever” and “*Borrelia*, all types / Borreliosis / Lyme Disease” in this section; and **PARASITES, PROTOZOA AND WORMS**, “*Babesia* / Babesiosis.”

300, 336.4, 382.2, 394.7, 528.4, 672.7, 749.2, 764.4, 918, 1200, 1317.2, 1345.4, 1369.8, 1364.9, 14980.5, 1836

Also try (from Dr. Richard Loyd): 0.08, 0.12, 0.85, 58.87, 224.03, 410.2, 585.83, 626.07, 725.34, 826.9

***Ehrlichia equi* / Ehrlichiosis**

Human granulocytic Ehrlichiosis, caused by *Ehrlichia equi*, is spread by the bite of a deer tick or common dog tick. Some of the following frequencies are experimental.

1.2 + 250, 295, 354.2, 349, 406, 469.7, 590, 637.9, 698, 7080.5, 939.3, 1180, 1223.4, 1416.9, 1878.7, 2833.9, 3248.3, 3757.3

Eikenella corrodens

Bacterium causes dental infections, often found with *Strep*. Also lives in intestinal, genital, and respiratory tracts.

From Dr. Richard Loyd: 834

Enterococcus faecalis

An aerobic bacterium common to the gastrointestinal tract, *Enterococcus faecalis* can cause life-threatening infections in humans and mammals. It's prevalent in hospitals, where it has developed an immunity to antibiotics. This pathogen is also found in a high number of tooth-related infections (including root canals), and in the urinary tract and prostate gland. It's also responsible for infections in wounds and on the skin, where it's called cellulitis. Frequencies are from Dr. Richard Loyd.

756, 757, 758, 759, 760, 761 (you can sweep all of these, as long as you allocate enough time for the session), 834

Enterococcus faecium

A relative of *Enterococcus faecalis*, *Enterococcus faecium* causes meningitis and endocarditis.

343, 686

**You may not need every frequency in an entry.
To determine which ones you need,
try muscle testing or dowsing (see Chapter 4).**

***Francisella tularensis* / Tularemia / Rabbit Fever / Deer Fly Fever**

Francisella tularensis affects and is carried worldwide by not only cottontail rabbits, but over a hundred other species of wild animals, birds, and insects: mice, squirrels, groundhogs, beavers, coyotes, muskrats, possums, sheep, game birds, ticks, lice, deerflies, and mosquitoes.

Symptoms in a rabbit include a swollen spleen, white spotted liver, and ulcerations. Humans contract tularemia from the bite of an infected insect; when broken skin touches an infected cottontail rabbit or contaminated pelt; by drinking contaminated water; or by inhaling dust from contaminated soil. Symptoms include ulcers, inflamed and swollen lymph glands, fever, headache, sudden chills, weight loss, abdominal pains, vomiting, fatigue, and headaches. A fatal form of pneumonia can develop.

Reduce infection risk by carefully cleaning, handling (with rubber gloves), and thoroughly cooking rabbit meat.

First try: 324, 427, 823

Also try: 323, 694, 913

***Fusobacterium*, all types**

Cause periodontal diseases, skin ulcers, swelling of jugular vein due to clots (thrombophlebitis), and throat infections.

From Richard Loyd: 377, 948, 953

Gardnerella

Bacteria that often infect and inflame the vaginal mucosa. 782 (from Dr. John Garvey), 320, 329, 485, 695, 995

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 333K (lowest), 340K (optimal), and 342550 (highest)

Hz set: 825.42 (lowest), 842.78 (optimal), and 849.10 (highest)

Also from Clark: 16927.60

Gordona sputi

Can cause lung infections.

381.2, 400.6, 429.1, 435.4, 762.3, 801.2, 858.2, 870.7, 3432.8, 1524.7, 1602.3, 1716.4, 17410.5, 3049, 3204.6, 3483

***Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer**

An ulcer is a sore, often filled with pus (decayed white blood cells). Most people who say “ulcer” mean the sore in the mucous membrane stomach lining or the duodenum (upper part of the small intestine that connects to the stomach). *Helicobacter pylori* can cause stomach cancer and can be present in glaucoma and arthritis. It’s transmitted to and from people, dogs, cats, sheep, gerbils, and pigs.

Adjunctive therapies include colloidal silver, oregano essential oil, the probiotic *Lactobacillus salivarius*, and New

Zealand Manuka (tea tree) honey. The honey should be labeled *UMF 15+* for “Unique Manuka Factor,” which designates its antibacterial strength. Mastic gum tincture from the *Pistacia lentiscus* tree works very well. Suppressed emotions such as anger inhibit gastric juice secretion which allows pathogens to grow, so consider psychotherapy.

Also see different frequencies for the same pathogen under **GASTROINTESTINAL TRACT, *Stomach and Esophagus*.**

Adapted (times only, rounded up) from Jimmie Holman. These numbers are combined with those for *Campylobacter*.

For 5 minutes: 400K, 36463.38, 36244.38

For 3 minutes: 36909.42, 56486.95, 36081.85, 31985.99, 36629.38, 35359.51, 36135.87

For 2 minutes: 36518.550, 36573.88, 36853.07, 51432.02, 31031.12, 31430.68, 32328.69, 35761.13, 36190.04, 36965.94

For 1 minute: 53971.36, 30789.23, 31761.52, 33276.97, 34320.25, 36685.04, 37079.51, 37136.55, 41907.57, 42398.29, 43519.39, 49397.19, 50490.69, 50574.44, 53601.98, 53881.16, 54489.3, 56049.75, 56575.21, 56663.75, 56953.42

***Klebsiella pneumoniae* / Pneumonia**

Klebsiella pneumoniae causes severe pneumonia, where infected and inflamed lungs fill with copious amounts of fluid and mucus. Symptoms include high fever, chills, and cough. In case there are other pathogens involved in the infection, also see “*Mycoplasma pneumoniae* / Pneumonia” in this section; **PARASITES, PROTOZOA AND WORMS**, “*Pneumocystis carinii*”; and **RESPIRATORY TRACT, *Lungs***, “Pneumonia / Bronchial Pneumonia.”

From Dr. Richard Loyd: 130, 410, 446, 650, 970, 7500, 10470, 152500, 493500, 375690, 475540, 398450, 401000, 404650, 419000

Also try: 412, 413, 746, 765, 766, 779, 783, 818, 840, 2838.5

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz sets:

393450 (lowest), 401K (optimal), and 404660 (highest)
416900 (lowest), 419K (optimal), and 421900 (highest)

Hz sets:

975.27 (lowest), 993.98 (optimal), and 1003.05 (highest)
1033.39 (lowest), 1038.6 (optimal), and 1045.79 (highest)

Also from Clark: 19964.61, 20860.78

***Legionella pneumophila* / Legionellosis / Legionnaire's Disease / Pontiac Fever**

Legionella pneumophila is involved with the relatively mild Pontiac fever and the more serious Legionnaire's disease. Legionnaire's got its name in 1976 when a pneumonia-like outbreak occurred among attendees of an American Legion convention in Philadelphia, Pennsylvania, US. The

bacterium had been recognized and named before, but to honor the occasion it was renamed *Legionella*.

Symptoms of Legionnaire's, usually appearing two days to two weeks after exposure, include fever, chills, dry cough, and sometimes muscle and head aches. A more advanced infection may spread to the gastrointestinal tract (abdominal pain, diarrhea and nausea), to the central nervous system (disorientation and confusion), to the kidneys and liver (organ damage), or to the respiratory tract (severe pneumonia that does not easily respond to antibiotics). Legionnaire's disease can sometimes cause death. Pontiac fever causes flu-like symptoms—fever, head and muscle aches usually lasting for two to five days—but pneumonia does not develop and infection doesn't spread beyond the lungs. Symptoms disappear without treatment and without causing further problems.

Legionella is often found in water: hot tubs, whirlpools, hot water tanks. Bacteria are not spread by person-to-person skin contact, but from contaminated vapor or mist that's inhaled. The elderly, smokers, people with chronic lung disease, weak immunity, cancer, diabetes or kidney failure, are especially susceptible to *Legionella* bacteria.

723 (from Dr. John Garvey), 660 + 690 + 727, 693, 724, 897, 975, 8120, 8856

***Leptospira* / Leptospirosis**

The spirochete bacteria *Leptospira* causes Leptospirosis, an inflammation that spreads to humans through water, food, or urine contact from an infected animal or other human. Symptoms include fever, headaches, rashes, chills, sore muscles, abdominal pain, vomiting, diarrhea, jaundice, and red eyes. If not treated, it can lead to kidney and liver damage, meningitis, anemia, miscarriage, and even death. The bacterium lives in a temperate or tropical climate.

612 (from Dr. John Garvey), 663. Also do a sweep for at least 25 minutes from 600–680

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 397050 (lowest), 399K (optimal), and 401100 (highest)

Hz set: 984.19 (lowest), 989.02 (optimal), and 994.23 (highest)

Also from Clark: 19865.04

***Listeria monocytogenes* / Listeriosis**

Listeriosis is a serious illness sometimes called the “circling disease” because the affected ruminants (animals with more than one stomach, such as cows) are often seen walking in circles. Pigs, cows, sheep, goats, hens, dogs, cats, and rodents are also affected. The disease can spread to humans through animal urine and improper handling of food.

Symptoms include nervous system disorders, fever, and loss of appetite. Sometimes there is liver degeneration, fever, fatigue, nausea, vomiting, diarrhea, inflammation

Conventional medicine does not test for cell-wall-deficient bacteria during the process of diagnosing diseases. Hence, there is a wide range of symptom[s] . . . which end up being diagnosed with nonsense disease labels such as “fibromyalgia,” “chronic fatigue syndrome,” or “depression.” These disease labels . . . are flawed because they provide only a description of symptoms but absolutely no useful information about the *cause* of the problem. Such diseases are known in the conventional medical community as “idiopathic.” The word means “without known cause,” but is really just a fancy way to say “We have no idea what is wrong with you.” Diagnosing muscle pains with the label “fibromyalgia” is like diagnosing a broken transmission in your car with the label “It Just Don't Work No More.”

—Bryan Rosner

The Top 10 Lyme Disease Treatments, 2007

of the brain and heart, and miscarriage. Other, more subtle symptoms include uncoordinated movements and progressive paralysis. Death among animals can occur within two weeks. Humans catch the disease by eating affected animals. It's easy to control this disease. *Listeria monocytogenes* lives aerobically, not only in soil whose pH is higher than 5.4, but also in fermenting animal feed. If the animal raisers feed their livestock unspoiled food—or allow them to graze—the animals are unlikely to contract the disease. Healthy animals are resistant to infection. Also see the various “*Streptococcus*” entries in this section. 471, 744, 2162 (first three from Dr. John Garvey), 377, 626, 628, 634, 714, 724, 852 (from Dr. Loyd), 7867

Lyme

See “*Borrelia*, all types / Borreliosis / Lyme Disease” in this section.

MARCoNS / Multiple Antibiotic Resistant Coagulase Negative *Staphylococci*

Often found deep within the nasal cavity, especially in people sensitive to mold and in those with environmental illness. It produces a cascade of biochemical malfunctions, which can result in debilitating fatigue, high levels of inflammation, digestive disturbances, and poor sleep.

From Dr. Richard Loyd: 1232 (for 30 minutes). For best result, sweep 1 Hz on either side of the main signal.

Micrococcus tetragenus

Often involved in infections of the seminal vesicles, the sacs that store semen before it's emitted through the penis. 393, 2712 (both from Dr. John Garvey), 433

MRSA

See under *Staph* entries in this section.

Mycobacterium abscessus

Often found in hospital settings. Infects skin.
588

***Mycobacterium avium* / Bird Tuberculosis**

See "*Mycobacterium avium* / Tuberculosis, Aviare / Bird Tuberculosis" under **TUBERCULOSIS**.

***Mycobacterium leprae* / Leprosy / Hansen's disease**

Chronic infectious disease resembling tuberculosis, causing lesions on the skin (especially of the hands and feet), in the mucous membranes of the eyes and nose, and in the nerves not in the brain or spinal cord. The bacteria can enter the body through the nose and possibly through broken skin, especially after prolonged close contact. Children may be more susceptible than adults.

This disease is prevalent in Africa, Latin America, parts of Asia, and Pacific Ocean islands. In 1995, the World Health Organization estimated that two to three million people were permanently disabled from leprosy. Some countries still have leper colonies due to the stigma of having this disfiguring disease.

Allopathic medicine advises taking drugs for up to two years. Herbs and colloidal silver will build immunity.

20, 428, 440, 444 + 1865, 450, 464, 500, 600 + 625 + 650, 660 + 690 + 727, 700, 760, 776, 787, 802 + 1550, 832, 880, 1500, 1600

Mycobacterium intracellulare

From Dr. Richard Loyd: 978

***Mycobacterium avium* subspecies paratuberculosis**

Primarily affects cattle and sheep, but humans sometimes are infected as well.

From Dr. Richard Loyd: 686

***Mycoplasma*, many types**

About one-tenth the size of regular bacteria, *Mycoplasma* affect humans, animals, and plants. Normally not causing serious damage, over half of the 200 species of *Mycoplasma* are now proven pathogens. Also, recent strains of highly destructive *Mycoplasma* have been found with unusual gene sequences that could only result from genetic engineering. On September 7, 1993, Patent number 5,242,820 for a *Mycoplasma* creation was awarded to Shyh-Ching Lo (named as the inventor). The party to whom the invention was transferred was the American Registry of Pathology, affiliated with the US military. A phrase used in conjunction with this pathogen is "biological warfare."

Engineered *Mycoplasma* can survive for only two hours outside the body, but they can live anywhere in the body, stealing nutrients from the host. They invade organs, blood, spinal fluid, bone marrow, urine, lungs, nose, mouth, and nerves. They even cross the blood/brain barrier, and are known to infect developing fetuses.

Slow growing, they can remain in the system for years and even decades, until a trauma—whether from chemicals, emotional upheaval, injury, drugs or vaccines, or illness—activates them. The illness caused by this pathogen depends on where in the body it gravitates, which may be the tissues in the body that are the weakest.

Mycoplasma can bind with any cell type and interfere with the synthesis of proteins, RNA, and DNA. The resulting cellular abnormalities can result in cancer. The ability of *Mycoplasma* to invade the body's lymphocytes, bind to them, and reduce their numbers, weakens immunity so the host is susceptible to other infections as well. When a *Mycoplasma* emerges from a cell, it takes a piece of the host cell membrane with it. Later, the immune system attacking the *Mycoplasma* cannot differentiate the pathogen from the body's own cells and attacks the host cells too. This is the basis of autoimmune conditions, such as rheumatoid arthritis, Crohn's disease, fibromyalgia, thyroid and adrenal dysfunction, lupus, Multiple Sclerosis, and Amyotrophic Lateral Sclerosis (ALS). Other conditions indicating *Mycoplasma* involvement include Gulf War Syndrome or Illness, Chronic Fatigue Syndrome (CFS), chemical sensitivity, HIV / AIDS, and a host of neurological diseases such as Alzheimer's and Parkinson's.

Mycoplasma pneumoniae used to be the most well-known strain, but *Mycoplasma fermentans incognitus* is now known among researchers, war veterans, and laypeople who are aware of its creation as a biological warfare weapon. Evidence suggests that *Mycoplasma fermentans*, which is neither a bacterium nor a virus, has been created by combining the nucleus of the *Brucella* bacterium with a visna virus, and then extracting the *Mycoplasma*.

Researchers use a soy-based broth to grow *Mycoplasma* cultures—soy is a favorite food of these highly dangerous and resistant microbes—giving us yet one more reason to avoid eating soy. Some allopathic physicians prescribe rotating doses of broad-spectrum antibiotics, but this may further compromise immunity. Many people successfully treat *Mycoplasma* infections by drinking large amounts of colloidal silver. See Chapter 3, **Colloidal Silver**.

All strains of *Mycoplasma* produce similar symptoms. Try all the frequencies below if you think you're infected.

From Dr. Richard Loyd: 75.1, 150.3, 254, 300.5, 322.85, 323.50, 323.90, 342.75, 346.00, 349.30, 484, 601, 610, 644, 660, 664, 673.9, 679.2, 684.1, 686.6, 688, 690, 690.7, 706.7, 709.2, 777, 779.9, 783.6, 790, 800.4, 801.88, 829.3, 857.65, 864, 865, 878.2, 880.2, 923.01, 969.9, 975, 986, 1045, 1062, 1067, 1113, 1147, 2404.2, 2688, 2838.5, 2842, 2900, 2950, 7344, 16106.12, 17226.33

From Dr. Marty Monahan: 199, 205, 377, 398, 455, 543, 581, 624, 629, 630, 752, 843

Also try, running for at least 3 minutes each: 388.6, 543.6, 709.2, 777.2, 1087.2, 1554.5, 2174.3, 2838.5, 3109, 4348.6, 6217.9

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz sets:

322850 (lowest), 323500 (optimal), and 323900 (highest)
342750 (lowest), 346K (optimal), and 349300 (highest)

Hz sets:

800.27 (lowest), 801.88 (optimal), and 802.87 (highest)
849.59 (lowest), 857.65 (optimal), and 865.83 (highest)

Also from Clark: 16106.12, 17226.33

Mycoplasma buccale

Found in diseases of the mouth (especially of the gingival crevices) and respiratory tract. Experiment with known frequencies for other strains.

Mycoplasma faucium

Found in the mouth (especially the crevices of the gums) and in the respiratory tract. Experiment with known frequencies for other strains.

***Mycoplasma fermentans* /**

Mycoplasma fermentans incognitus

This pathogen fuses with lymphocytes (immune cells) and impedes their immune function, inducing production of inflammatory substances in the body. *Mycoplasma fermentans (incognitus strain)* may be neither a bacterium nor a virus. There's solid evidence that it came from the nucleus of the *Brucella* bacterium and that it was combined with a visna virus. Artificially created pathogens are hard to classify, but *Mycoplasma fermentans* is commonly referred to as a bacterium.

Found in high amounts in the blood of people with other illnesses, including rheumatoid arthritis, Chronic Fatigue Syndrome, Gulf War Syndrome, fibromyalgia, Lupus, HIV / AIDS, autoimmune diseases such as diabetes, Amyotrophic Lateral Sclerosis (ALS), psoriasis and scleroderma, Irritable Bowel Syndrome, cancer, endocrine disorders, Multiple Sclerosis, and urogenital infections and diseases. Also see **GULF WAR SYNDROME / GULF WAR ILLNESS**; other "*Mycoplasma*" entries in this **BACTERIA** section; **VIRUSES**, "HIV (Human Immunodeficiency Virus) / AIDS (Acquired Immune Deficiency Syndrome)"; and **VIRUSES**, "Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)."

254, 484, 610, 644, 660 + 690 + 727, 706.7, 790, 864, 878.2, 880.2, 986, 2900

Sweep: 5044–5061; 5355–5458

Always use 40K to help restore cellular vitality.

Mycoplasma genitalium

Causes urogenital infections, pelvic inflammatory disease, nongonococcal urethritis, and perhaps arthritis, infertility and HIV. Experiment with frequencies for other strains or go to dna frequencies.com.

Mycoplasma hominis

Involved in many reproductive disorders (infertility, problem pregnancies, PID (Pelvic Inflammatory Disease), nongonococcal urethritis, vaginitis, pyelonephritis), and issues afflicting newborns: neonatal pneumonia, premature rupture of placenta membranes, infections from Caesarian surgeries, conjunctivitis, and low birth weight. May also be a cofactor in HIV. A study has linked a *Mycoplasma hominis*-like microbe to *Chlamydia pneumoniae*, so also see "*Chlamydia pneumoniae*" in this section.

From Dr. Richard Loyd: 876

Mycoplasma hyorhinis

Often in the respiratory tract of pigs but not humans.

From Dr. Richard Loyd: 689

Mycoplasma lipophilum

Implicated in diseases of the mouth, in particular diseases of the gingival crevices, and respiratory tract. Experiment with frequencies for other strains.

Mycoplasma penetrans

Thought to be a cofactor in HIV, urogenital infections, and autoimmune disorders. Experiment with frequencies for other strains.

Mycoplasma pirum

May be a cofactor in HIV and urogenital infections. Experiment with frequencies for other strains.

***Mycoplasma pneumoniae* / Pneumonia**

Mycoplasma pneumonia causes severe pneumonia (infection and inflammation of the lungs), usually caught and spread by children and young adults. Symptoms include copious fluid and mucus in the lungs, high fever, chills, cough, nasal congestion, sore throat, tracheobronchitis, pharyngitis, and sometimes blood in the mucus of the lungs. This condition also causes problems with joints, the central nervous system and liver, and the respiratory, autoimmune and cardiovascular systems. Some of the issues include asthma, heart disease, leukemia, polyarthritis, urinary tract infections, Irritable Bowel Syndrome, encephalitis, and meningitis. Also see "*Klebsiella pneumoniae* / Pneumonia" in this section; **PARASITES, PROTOZOA AND WORMS**, "*Pneumocystis carinii*"; and **RESPIRATORY TRACT**,

Lungs, “Pneumonia / Bronchial Pneumonia.”

First try: 688 (from Dr. John Garvey), 660 + 690 + 727, 688, 709.2, 777, 975, 2688, 2838.5, 6600
 Then try: 20, 412, 450, 452, 550, 578, 600 + 625 + 650, 683, 766, 776, 787, 802 + 1550, 880, 1238, 1474, 1862

Mycoplasma salivarium

Implicated in arthritis, TMJ (temporomandibular joint) disorders, eye and ear disorders and infections, and mouth and gum infections, including gingivitis, periodontal diseases, and even cavities.

253, 279, 420, 453, 761, 832 (run each for 18 minutes after building up time tolerance)

Neisseria gonorrhoeae / Gonococcus / Gonorrhea

Neisseria gonorrhoeae causes (sexually transmitted) gonorrhea. Symptoms include inflammation of the genital mucous membrane, and painful urination. There may be inflammation in the joints and in the mucosa of the rectum, eyes and mouth. Infection can exist on a sub-clinical level. Men usually experience burning during urination with perhaps a drip or discharge from the penis, but many women do not feel symptoms. This pathogen is resistant to pharmaceutical antibiotics. An untreated infection can migrate to other areas and cause arthritis, prostatitis, cystitis, epididymitis, orchitis, pelvic inflammatory disease (PID), and endocarditis. Also see additional entries under **MEN** and **WOMEN**.

600 + 625 + 650, 660 + 690 + 727, 712

From Royal Rife, possibly used on his #4 machine: 233K
 From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 333850 (lowest), 334K (optimal), and 336500 (highest)

Hz set: 827.53 (lowest), 827.90 (optimal), and 834.10 (highest)

Also from Clark: 16628.88, 927.90

Nocardia asteroides / Nocardiosis

Nocardia asteroides is transmitted mainly through soil, causing nocardiosis. Symptoms include abscesses in the lungs, fever and cough that can last several months, and possibly heart damage and lesions in the brain leading to meningitis (inflammation of the meninges, or protective membranes covering the brain and spinal cord).

228, 231, 237, 694, 710, 887, 2890

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 354950 (lowest), 355100 (optimal), and 355350 (highest)

Hz set: 879.83 (lowest), 880.20 (optimal), and 880.82 (highest)

Also from Clark: 17679.39

Pneumococcus

See “*Streptococcus pneumoniae*” in this section.

Porphyromonas gingivalis

Causes peritonitis (inflammation of the membrane that lines the abdominal cavity) and severe oral infections.

From Dr. Richard Loyd: 867

Prevotella

Commonly found in the teeth, gums and lungs, they disrupt the intestinal flora and are linked to chronic inflammatory conditions. Frequencies below are for four different strains.

From Dr. Richard Loyd: 478, 765, 836, 966

Propionibacterium acnes

Lives in the skin's sebaceous glands (glands that secrete sebum, or oil) and can cause acne. Also implicated in corneal ulcers, endocarditis, and infections after the implantation of heart valves and shunts (tubes connecting various body parts that aren't normally connected to each other). May be a secondary cause of some prostate cancers. Sweep from 5996.1–6078.1 for 20 minutes. Also run 6046.9 separately for 6 minutes.

From Dr. Hulda Clark: 19267.60, 959.28

Proteus vulgaris

Found in soil, water, sewage and the large intestine, this bacterium survives aerobically and anaerobically. It can also degrade urea into ammonia. It often infects the urinary tract, sometimes causing gastrointestinal, ear, sinus and skin infections, with high fever, chills, and abscesses.

634 (from Dr. Richard Loyd), 424, 434, 594 (from Dr. John Garvey), 600 + 625 + 650, 776, 834

Also sweep 749–755

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz sets:

408750 (lowest), 413K (optimal), and 416450 (highest)

333750 (lowest), 336K (optimal), and 339150 (highest)

327200 (lowest), 328K (optimal), and 329500 (highest)

Hz sets:

1013.19 (lowest), 1023.72 (optimal), and 1032.28 (highest)

827.28 (lowest) and 840.67 (optimal and highest)

811.05 (lowest) and 816.75 (optimal and highest)

Also from Clark: 20562.06, 16728.45, 16330.16, 832.86, 813.03

Proteus mirabilis

Abundant in soil and water, this microorganism most commonly infects the urinary tract, especially in people who have catheters. This strain is estimated to cause 90% of all *Proteus* infections in humans.

Sweep 764–771

Pseudomonas aeruginosa

Causes infections, including in the urinary tract, ears, lungs, and on the skin of people with burns and wounds. 985 (from Dr. Loyd), 5311, 482 (both from Dr. Garvey), 174, 178, 191, 405, 633, 731, 785, 1132, 3965, 6646

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 331250 (lowest), 333K (optimal), and 334600 (highest)

Hz set: 821.09 (lowest), 825.42 (optimal), and 829.39 (highest)

Also from Clark: 16579.09

***Pseudomonas mallei* / Glanders / Farcy**

Pseudomonas mallei causes Glanders, primarily involving the mucous membranes of the mouth and respiratory tract. It occasionally migrates to the lymph nodes (where it's called Farcy). It mostly affects horses, mules and donkeys, but occasionally it's transmitted to humans, goats, sheep, cats, and dogs. Uncommon in the US and Europe, it appears in Asia, Africa, and South America.

First try: 501, 660 + 690 + 727, 687, 743, 774, 857, 875, 1273

Also try: 20, 787, 880

Pseudomonas pyocyanea

Commonly found in wounds, burns, and urinary tract.

From Dr. John Garvey: 437

Rhodococcus equi

Originating in horses and found in people with severely compromised immune function.

124, 337, 432, 682, 720, 764, 835

***Rickettsia* / Q Fever**

Rickettsia family microbes cause infectious Q Fever. Symptoms include headache, fever, dry cough, muscle aches, chills, sweating, nausea, vomiting, and liver inflammation. Induced by drinking infected milk, or contact with sheep, cattle, goats, cats, dogs, birds, rodents, and ticks and other insects harboring *Rickettsia* and *Coxiella burnetii*. Also see "*Rickettsia rickettsii* / Rocky Mountain Spotted Fever" in this section.

129, 521.2, 523, 549, 607, 632, 720, 726, 943, 1062, 1357, 2084.8

***Rickettsia conorii* / Mediterranean Spotted Fever**

Another name is Boutonneuse fever, also found in Africa, Asia and India. Transmitted by ticks, symptoms include fever, abdominal and chest pain, muscle and joint aches, and a red rash on the legs, especially below the knees.

From Dr. Richard Loyd: 866

***Rickettsia rickettsii* / Rocky Mountain Spotted Fever**

Rickettsia rickettsii causes Rocky Mountain Spotted Fever, an infectious illness carried by wood or deer ticks and other insects. Symptoms include fever, severe headache, gastrointestinal tract, pain in bones and muscles, and later on seizures, jaundice, and heart disturbances.

Rocky Mountain Spotted Fever often occurs with other diseases carried by the same insects, so also see "*Ehrlichia chaffeensis* / Ehrlichiosis" and "*Borrelia*, all types / Borreliosis / Lyme Disease" in this section; and **PARASITES, PROTOZOA AND WORMS**, "*Babesia*/Babesiosis."

First try: 129, 943 (both from Dr. John Garvey), 76, 308, 375, 468, 521.2, 570, 788, 862, 1583, 1584, 2084.8

Then try: 129, 549, 632, 720, 726, 1062

From Michael Tigchelaar: 128, 239, 417, 422, 577, 578, 579, 673, 693, 758, 797, 846, 884, 1455, 1590, 4870, 4880, 5054.9, 4996.9, 7989

***Salmonella* / Food Poisoning**

Of the different *Salmonella* bacteria, two prominent strains that cause food poisoning (also called "Salmonella") are *Salmonella enteritidis* and *Salmonella typhimurium*, both subspecies of *Salmonella enterica*. Often transmitted to humans from animals, symptoms include dehydration, fever, abdominal pain, constipation, diarrhea, nausea, vomiting, and a rose-colored skin rash. Also see "*Bacillus botulinum* / Botulism" in this section.

First try: 1522 (from Dr. John Garvey), 59, 92, 165, 420, 643, 664, 707, 711, 717, 719, 752, 972, 1244, 6787, 7771

Then try: 546, 693, 754, 762, 773, 1634, 8656

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 382300 (lowest), 385K and 386K (optimal), 386550 (highest)

Hz set: 947.63 (lowest), 954.32 and 956.80 (optimal), and 958.16 (highest)

Whether using the KHz or Hz set, use all the frequencies because this microorganism frequently morphs.

Also from Clark: 19168.02, 19217.81

Salmonella enterica

Causes mild stomach distress to severe systemic infection.

760

From Dr. Hulda Clark: 329K or 815.51 (for units unable to output KHz) and 16379.95

***Salmonella paratyphi* / *paratyphi A* / Paratyphoid Fever**

Salmonella paratyphi causes paratyphoid fever. Symptoms include high fever, headache, loss of appetite, vomiting, abdominal cramping, and constipation or diarrhea.

776

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 365050 (lowest), 368K (optimal), and 370100 (highest)

Hz set: 904.87 (lowest), 912.18 (optimal), and 917.39 (highest)

Also from Clark: 18321.64

Salmonella paratyphi B* / *Salmonella B

In humans, contracted through contact with aquariums. Symptoms include fever, vomiting, and diarrhea. The numbers below are from Dr. John Garvey.

59, 92, 546, 643, 707, 717, 972, 1634, 7771

Salmonella typhimurium

A subset strain of *Salmonella enterica*. It can be transferred to humans from raw or undercooked meat and eggs, causing diarrhea, vomiting, abdominal cramps, and fever.

From Dr. Richard Loyd: 180, 570, 1850, 7500, 329K, 382300, 386550, 355K, 386K, 390K

Salmonella typhi* / Typhoid Fever / *Bacillus typhosis

Highly infectious and sometimes life-threatening, Typhoid Fever or *Salmonella* (also the name of the microbe) is transmitted through sewage or contaminated food, to and by humans. The bacterium penetrates the intestinal lining, multiplies, and spreads through the bloodstream, often entering the liver, bone marrow, and bile ducts. Symptoms include high fever, headache, chills and sweats, abdominal bloating, diarrhea, constipation, skin lesions, dry cough, weakness, and sometimes delirium.

Typhoid affects about 21.5 million people yearly, mostly in parts of Asia, Africa, and Central and South America that still have undeveloped hygiene and sanitation. Some people recover but carry the bacteria. When traveling to high-risk countries, drink only bottled or boiled water, avoid raw foods, and wash hands before eating.

Also see "*Vibrio cholerae* / Cholera" and "*Salmonella paratyphi* / *paratyphi A* / Paratyphoid Fever" in this section; "*Entamoeba histolytica* / Amoebic Dysentery" under **PARASITES, PROTOZOA AND WORMS**; and **LIVER AND GALLBLADDER**, *Liver*, "Hepatitis A."

From Royal Rife, possibly used on his #4 machine: 760K (rod form); 1445K (filter passing form)

Also try: 660 + 690 + 727, 712, 714, 802 + 1550, 804, 824, 1770, 1800, 1862, 1865, 3205

Shigella

The name of the microbe and the disease it causes. Usually transmitted through contaminated food, it infects the gastrointestinal tract. Symptoms include nausea, vomiting, diarrhea, fever, abdominal pain, headache, dehydration, and blood, pus, or mucus in the stool. Also see **PARASITES, PROTOZOA AND WORMS**, "Amoebas."

26, 621, 762, 769, 770, 802 + 1550, 832

From Dr. Hulda Clark: 390089 or 966.93 (for units unable to output KHz) and 19421.39

Shigella flexneri

Accounts for one-third of *Shigella* infections in the US. It's linked to depression and can lead to chronic reactive arthritis, causing joint pain, painful urination, and irritation in eyes.

From Dr. Hulda Clark: 394K or 976.63 (for units unable to output KHz) and 19616.10

Staphylococcus* / *Staph

There are many types of *Staph*, a common bacterium that forms in clusters. On the skin it's harmless, but it causes infection if it enters the body via an open cut. Infections can lodge in the skin, eyes, mouth, heart and circulatory system, gastrointestinal tract, and respiratory tract.

Staph general* / *Staphylococcus saprophyticus

According to Dr. Richard Loyd, the most common variety of this bacterium, which people simply call "*Staph*," is *Staphylococcus saprophyticus*. The most important frequencies for *Staph* in general may be 728 Hz and 786 Hz. However, people also find the frequencies below helpful. For the numbers that are close together, set your machine to do a sweep. 647, 727, 728, 745, 786, 786, 875, 876.5, 877, 878, 879, 880, 881, 882, 883, 884, 885

Staphylococcus albus

Commonly present on the skin, and involved in many wounds and skin infections.

From Royal Rife, possibly used on his #4 machine: 478K

Staphylococcus aureus methicillin-resistant MRSA

Antibiotics to which this *Staph* strain is resistant include methicillin, penicillin, amoxicillin, and oxacillin. Infections occur mostly in hospitals and other facilities where subjects have weakened immunity. Manuka honey (ingested and externally applied) can eliminate these infections.

From Richard Loyd (in this order): 8697, 7270, 1050, 999, 943, 824.4, 787, 784, 745, 738, 728, 727, 647, 644, 555, 478, 466, 424, 5906.25 (for 30 minutes)

Staphylococcus (pyogenes) aureus

Found on the skin in infected cuts and pimples, and in the nose and throat. It causes nausea, vomiting, diarrhea, boils, abscesses, tooth infection, and heart disease including endocarditis. It can also contaminate existing tumors.

From Dr. John Garvey: 727, 943

Dr. Richard Loyd, noting that the pathogen keeps mutating, updated his protocol on February 12, 2021: 366, 456, 466, 467, 468, 478, 555, 576, 644, 647, 668, 687, 727, 728, 737, 738, 745, 757, 764, 767, 784, 785, 786, 786.5, 787, 788, 824.4, 878, 936.97, 943, 944.4, 946, 999, 1050, 2352.44, 2371.11, 5906.25, 5953.12, 7270, 8697

From Dr. James Bare: sweep 723–730

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 376270 (lowest), 378K (optimal), and 380850 (highest)

Hz set: 932.68 (lowest), 936.97 (optimal), and 944.03 (highest)

Also from Clark: 18819.51, 18968.87 and 381K, or 944.40 (for units unable to output KHz)

Staphylococcus auricularis

Often involved in ear infections.

From Dr. Richard Loyd: 366

Staphylococcus capitis

Can cause blood infections and endocarditis.

From Dr. Richard Loyd: 866

Staphylococcus caprae

On healthy human skin, nails, and nasal mucosa. In excess, infects primarily bones and joints.

From Dr. Richard Loyd: 788

Staphylococcus coagulase positive

Produces many toxins and may cause food poisoning. Don't rely on this frequency alone.

From Dr. John Garvey: 643

Staphylococcus epidermidis

Normally part of the intestinal flora, this strain causes infections in those who are weak, elderly, and already debilitated from other pathogens. Infections are often found in wounds, including areas of the body that have implants (artificial valves or joints,

stents, shunts). Endocarditis (inflammation in portions of the heart and valves) is often caused by this pathogen, which produces copious biofilm.

From Dr. Richard Loyd: 475, 488, 575, 1232

Staphylococcus lugdunensis

Often causes endocarditis, inflammation of heart.

From Dr. Richard Loyd: 657

Staph, MARCoNS (Multiple Antibiotic Resistant Coagulase Negative Staphylococci)

Often found deep within the nasal cavity, especially in people with mold sensitivity and environmental illness. It produces many biochemical malfunctions, resulting in debilitating fatigue, high inflammation levels, digestive disturbances, and poor sleep.

I would use essential oils for this as well; see pages 693 and 828.

From Richard Loyd: 1232 (for 30 minutes). Sweep 1 Hz on either side of the main signal.

Staphylococcus mutans

Implicated in plaque and other dental conditions.

1980.47

Staphylococcus warneri

Causes disease mostly in the immunocompromised.

From Dr. Richard Loyd: 768

Staphylococcus, co-infections

Short Set; run for 10 minutes each: 48, 60, 453, 550, 634, 674, 1089, 1109, 7160

Longer Set: 6.8, 48, 60 + 100, 95, 120, 125, 160, 200, 300.2, 333 + 523 + 768, 424, 453, 464, 550, 634, 666, 674, 678, 727, 736, 738.3, 740.7, 742.2, 784, 786, 787, 802 + 1550, 875, 880, 885, 943, 952, 960, 999, 1050, 1089, 1109, 1184, 1241, 1266, 1560, 1840, 1998, 2K, 7160, 8697

Streptococcus / Strep

This common bacterium lives in the nose and upper respiratory tract. Its presence is so widely associated with red and white patches on the throat, and swelling of the tonsils and vocal cords, that often people refer to any sore throat malady—whether caused by this bacterium or not—as “Strep throat.” Other common symptoms caused by *Strep* include fever, headache, and upset stomach. Remedies include liquids, Vitamin C, and immune support. If this bacterium festers inside the body at subclinical levels, other conditions may occur later, including rheumatic and scarlet fevers, kidney disease, and perhaps autoimmune conditions as well. Even subclinical levels of *Strep* can impede progress with other problems; so if you're feeling stuck, rife for *Strep*. Use all of the frequencies because this microorganism frequently morphs.

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 369750 (lowest), 375K and 380K (optimal), 385400 (highest).

Hz set: 916.52 (lowest), 929.53 and 941.93 (optimal), and 955.31 (highest).

Another *Strep* set from Clark.

KHz set: 380600 (lowest), 385K (optimal), and 387400 (highest)

Hz set: 943.41 (lowest), 954.32 (optimal), and 960.27 (highest)

Streptococcus anginosus

Little known group, associated with abscesses.

From Dr. Richard Loyd: 566, 587

Streptococcus B (agalactiae)

Often present in the intestines or lower genital tract. Usually harmless to adults (unless they're already weakened), it can severely affect newborns with fever, lethargy, and difficulty eating or breathing.

From Dr. Richard Loyd: 476, 843

Streptococcus dysgalactiae

A major cause of bovine mastitis (inflammation, heat, swelling and pain in a dairy cow's udder).

From Dr. Richard Loyd: 258

Streptococcus enterococcinum

Often present in digestive and urinary infections.
409, 686

Streptococcus gallolyticus (formerly bovis)

Main cause of infective endocarditis (inflammation of portions of the heart) and of septicemia (blood poisoning).

From Dr. Richard Loyd: 889

Streptococcus haemolytic

Found in blood infections.

535, 1522 (both from Dr. John Garvey), 128, 134, 318, 333 + 523 + 768 + 786, 334, 368, 443, 542, 563, 611, 660 + 690 + 727, 675, 691, 710, 712, 880, 1203, 1415, 1902

Streptococcus intermedius

Causes lung and heart problems.

From Dr. Richard Loyd: 975

Streptococcus mitis

Lives in the mouth, sinuses and throat. Believed harmless except to the immune-compromised. Once it infects the mouth and teeth, it may also induce heart inflammation. It's resistant to penicillin

and other antibiotics, so use the frequencies and colloidal silver (see Chapter 3, **Colloidal Silver**).

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 313800 (lowest), 318K (optimal), and 321100 (highest)

Hz set: 777.83 (lowest), 788.24 (optimal), and 795.93 (highest)

Also from Clark: 788.24, 929.53, 941.93, 18670.15, 18919.09, 15832.29

Streptococcus oralis

Can infect the mouth.

354

Streptococcus pepto

Can infect digestive tract.

201 (from Dr. John Garvey), 629

Streptococcus pneumoniae

Can cause pneumonia, endocarditis (inflammation of membrane lining the heart), middle ear infections, peritonitis (inflammation of the mucus lining the intestines), arthritis, and meningitis (inflammation of membrane surrounding the brain and spinal cord).

From Dr. Richard Loyd: 683 and 688 (most effective), 625.5, 1136.7, 18187.4, 20015.3, 2273.4, 22938, 23000, 23032.8, 23138, 36374.8, 40030.6, 4546.9, 45856, 46000, 46065.5, 46275, 72749.6

Also try: 158, 201, 645, 771, 801, 845, 11780K

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 366850 (lowest), 368K (optimal), and 370200 (highest)

Hz set: 909.33 (lowest), 912.18 (optimal), and 917.63 (highest)

Also from Clark: 18321.64

From Royal Rife, possibly used on his #4 machine: 427K

Also try: 67, 231, 232, 268, 284, 536, 568, 683, 688, 728, 766, 776, 846, 1072, 1137, 2145, 2273, 8865

Streptococcus salivarius

Living in the mouth and upper respiratory tract, it's generally harmless until it enters the bloodstream. It may deplete white blood cells.

836

Streptococcus pyogenes / Strep A / Scarlet Fever

Causes scarlet fever (an airborne infection usually contracted by children) and other infections,

including cellulitis and impetigo. Symptoms of scarlet fever include rash, sore throat, flushed face, chills, abdominal pain, head and muscle aches, and a thick white coating on the tongue that peels after several days, giving a strawberry-like appearance. The child may not feel ill, but sometimes untreated scarlet fever can cause heart and kidney damage.

From Royal Rife, possibly used on his #4 machine: 720K

Also try: 437, 660 + 690 + 727, 784, 875 to 885, 2K, 10K

And then try: 20, 465, 787, 880

***Streptococcus pyogenes* / Strep Throat**

This strain causes the condition commonly referred to as “Strep throat.” Symptoms include skin inflammation, sore throat, and sores filled with pus (dead white blood cells). If not treated, it can develop into Scarlet Fever (see previous entry).

From Royal Rife, possibly used on his #4 machine: 720K

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 360500 (lowest), 373K (optimal), and 375300 (highest)

Hz set: 893.59 (lowest), 924.57 (optimal), and 930.28 (highest)

Also from Clark: 18570.58

Also try: 20, 465, 660 + 690 + 727, 784, 787, 875–885 (sweep), 880, 2K, 10K

***Streptococcus sanguinis* (formerly *sanguis*)**

Found mostly in dental plaque.

565

Streptococcus viridans

Major cause of endocarditis (inflammation of heart).

554 (from Dr. Richard Loyd), 425, 433, 445, 935, 1010, 1060, 8478, 457, 465, 777, 778, 1214, 1216

***Streptococcus*, Additional, Mutant Strains**

First try: 114, 437, 600 + 625 + 650, 660 + 690 + 727, 848, 883, 994

Also try: 108, 433, 488, 687, 732, 745, 754, 764, 833, 8686, 8777, 9676

Streptothrix

See “*Actinomyces*” entries in this section.

Treponema denticola

This spirochete causes gum disease and tooth socket infections. Recent research suggests that this and other *Treponema* species may also be implicated in Alzheimer’s.

From Dr. Richard Loyd: 842

***Treponema pallidum* / Syphilis**

The spirochete *Treponema pallidum* causes syphilis, a highly infectious disease that can cause lesions in the sexual organs, fever, headache, swollen glands, rash on the hands and feet, and ultimately blindness, heart disease, and insanity if not treated.

From Dr. Marty Monahan: 900, 789, 650, 625, 660, 511, 641, 633, 640, 827, 885

Also try: 600, 690, 727, 20, 120, 177, 658, 700, 902

From Royal Rife, possibly used on his #4 machine: 789K

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 346850 (lowest), 347K (optimal), and 347400 (highest)

Hz set: 859.76 (lowest), 860.13 (optimal), and 861.12 (highest)

Also from Clark: 17276.11

Typhoid Fever

See “*Salmonella typhi* / Typhoid Fever” in this section.

Ureaplasma urealyticum

A type of *Mycoplasma*. In the reproductive tract, it causes infertility, PID (pelvic inflammatory disease), vaginitis, problem pregnancies, premature delivery, and chorioamnionitis (infection of the placenta and amniotic fluid). It’s also involved in conditions afflicting newborns: low birth weight, neonatal pneumonia and conjunctivitis, and wound infections from Caesarian surgeries. In the urinary tract, it can cause nongonococcal urethritis and pyelonephritis. In the respiratory tract it causes pneumonia and lung problems. Also implicated in high blood pressure, and chronic infection of the central nervous system.

From Dr. John Garvey: 756

From Jimmie Holman, the most important frequencies: (5 minutes each) 36947.0805 and 36647.9105; (4 minutes) 49062.5205; (3 minutes) 36208.1405, 51177.5805, 37560.3105 and 51141.4405; (2 minutes) 37405.105, 48929.9105, 49062.5205, 36353.5505 and 51541.8305

***Vibrio cholerae* / Cholera**

Vibrio cholerae, very infectious in the small intestine, causes cholera. Symptoms include copious watery diarrhea (which can quickly lead to severe dehydration if left untreated), vomiting, muscle cramps, and weakness. Rarely transmitted by person-to-person contact, cholera is usually spread by contaminated water and food (often raw and improperly cooked seafood). The bacterium is found in salt water and near plankton. Epidemics have appeared in Russia, Iran, Iraq, Bangladesh, India, West Africa, Latin America, and Indonesia. Until 1992, only *Vibrio cholerae* serogroup O1 was associated with epidemic cholera. More recently, other serogroups have been identified—

including O139 (dubbed “Bengal”), reported in epidemic proportions in eleven countries in Southeast Asia.

Most people manage by drinking to replenish their bodily fluids, but some become so dehydrated that fluids must be given intravenously. Keep food clean and wash hands after using the toilet. Also see “*Salmonella typhi* / Typhoid Fever” in this section.

First try: 843, 844 (both from Dr. John Garvey), 330, 556, 591, 660 + 690 + 727, 691, 968, 1035

Also try: 450, 802 + 1550, 787, 880

***Yersinia (Pasteurella) pestis* / *Pasteurella* / Bubonic Plague / Black Death**

The rod-shaped bacterium *Yersinia pestis*, reclassified from its former name *Pasteurella*, causes the contagious Bubonic Plague. In the 14th century, when one-third the population of the Middle East, China and Europe died from the disease, Bubonic Plague was called Black Death because the facial skin of many of the people who died was dark. This infection occurs mainly in wild rodents, but it is transmitted to people who are bitten by fleas from infected rodents (especially rats), or contact infected animals such as domestic cats. Bubonic Plague can also be passed from person to person through the air or direct contact. Symptoms include high fever and chills, rash, vomiting and diarrhea, and the formation of buboes or swollen lymph nodes (particularly in the groin), which gives the disease its name. Pneumonia and other respiratory infections can lead to death.

Similar pathogens cause Pneumonic Plague (primarily infecting the lungs), causing fever, difficulty breathing, cough, bloody mucus, severe headache and rapid heartbeat; and Septicemic Plague (primarily infecting the bloodstream), with symptoms of fever, chills, abdominal pain, shock, and internal bleeding. All of these infections are dangerous and require immediate medical treatment.

Some strains of these microbes have become resistant to antibiotics. They are also reported to be used in biological warfare. Proper hygiene, pure drinking water, healthy food, and antimicrobials are essential for building the body's immunity. Don't rely solely on the frequencies!

333 (from Dr. John Garvey), 20, 210, 216, 333 + 523 + 768 + 786, 500, 660 + 690 + 727, 787, 880

***Yersinia* infections, other (unspecified)**

323, 694, 913

End of Bacteria section.

BAD BREATH

See “Halitosis” under **DENTAL, Mouth and Gums**.

BANTI'S DISEASE

See under **LIVER AND GALLBLADDER, Liver**.

BARLEY SMUT

See “*Ustilago nuda* / Barley Smut” under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

BARTONELLA QUINTANA

See under **BACTERIA**.

BASEDOW'S DISEASE

See “Graves' Disease / Basedow's / Diffuse Toxic Goiter” under **GLANDS, Thyroid**.

BECHTEREW'S DISEASE

See “Ankylosing Spondylitis / Bechterew's Disease” under **BONE AND SKELETON**.

BED WETTING

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

BEDSORES

See under **SKIN**.

BEHAVIORAL DIFFICULTIES

See **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

BELL'S PALSY

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

BILIARY CIRRHOSIS

See “Cirrhosis of the Liver / Biliary Cirrhosis” under **LIVER AND GALLBLADDER, Liver**.

BILIARY HEADACHE

See under **LIVER AND GALLBLADDER, Liver**.

BILIOUSNESS

See under **LIVER AND GALLBLADDER, Liver**.

BILIRUBINEMIA

See “Jaundice / Bilirubinemia” under **LIVER AND GALLBLADDER, Liver**.

BIOFILMS

See under **BACTERIA**.

BIPOLAR DISORDER

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

BIRD FLU

See “Avian Flu / Bird Flu” under **VIRUSES**.

BIRD TUBERCULOSIS / MYCOBACTERIUM AVIUM

See “*Mycobacterium avium* / Tuberculosis, Aviare / Bird Tuberculosis” under **TUBERCULOSIS**.

BITES FROM INSECTS AND OTHER ANIMALS

See **INSECT BITES** and **SNAKE BITES**.

BLACKHEAD

See under **SKIN**.

BLACK WIDOW SPIDER BITE

See under **INSECT BITES**.

BLADDER CONDITIONS, ALL

See under **URINARY TRACT**, *Bladder and Urethra*

BLADDER CANCER

See under **CANCER**.

BLASTOCYSTIS HOMINIS / BLASTOCYSTOSIS

See under **PARASITES, PROTOZOA AND WORMS**.

BLASTOMYCES DERMATITIDIS / BLASTOMYCOSIS

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

BLEPHARISMA JAPONICUM AND BLEPHARISMA UNDULANS

See under **PARASITES, PROTOZOA AND WORMS**.

BLISTER

See under **SKIN**.

BLOOD PRESSURE, ALL

See under **HEART, BLOOD AND CIRCULATION**.

BLOOD SUGAR PROBLEMS

Our junk food culture promotes blood sugar disorders. The brain needs a steady supply of glucose and cannot adapt well to, or compensate for, erratic changes in blood sugar (glucose) levels. This is why symptoms of blood sugar disorders are as varied as the many functions of the brain, which is involved in all sensory, motor, perceptual, cognitive, and emotional functions. A brain that's not fed properly becomes unstable.

Sugar handling issues are exacerbated by dietary sugars, refined carbohydrates, and (for most people) even complex carbs such as whole grains, potatoes and other starches, and fruit. Blood sugar disorders commonly indicate carbohydrate intolerance and/or insulin resistance. A diet of moderate animal protein, some healthy fats and oils, and low-starch vegetables nourishes the body without straining the pancreas or causing erratic secretions of insulin.

In 2006, the American Chemical Society published research showing the relationship between mercury and blood sugar disorders. Mercury disrupts the function of the hormone insulin, disables the beta cells of the pancreas (which produce insulin), and disturbs the insulin receptor sites in all of the body's cells. Heavy metals such as arsenic, lead and aluminum also disrupt glucose metabolism.

Regular exercise is very important for any blood sugar disorder. During exercise and for several hours afterward, the transport of glucose into the cells is increased due to the cells' greater receptivity to insulin.

Blood sugar problems require a comprehensive approach due to their many causes. Ozone therapy can be helpful.

A surprisingly large number of people test positive for pancreatic flukes, so see **PARASITES, PROTOZOA AND WORMS**, "*Eurytrema pancreaticum* / Pancreatic Fluke." Parasites can disrupt the function of organs and glands, even to the point of causing degenerative diseases.

Diabetes / High Blood Sugar / Hyperglycemia

Diabetes, or excessively high glucose levels in the bloodstream, causes a craving for sweets or carbohydrates, including fast-metabolized alcohol. Common symptoms include susceptibility to infection, poor circulation, slow healing of wounds and bruises, and even depression. If untreated, diabetes can lead to acidosis, featuring abdominal pain, drowsiness, nausea, vomiting, difficulty breathing, and ultimately coma.

This complex condition is sometimes noted according to the age at which people are affected, but classifying diabetes according to its causes is more common and more informative. With Type 1 diabetes, the pancreas is not producing enough insulin to assist the glucose across the cell membranes. This pancreatic insufficiency or imbalance may be due to autoimmune destruction of the insulin-producing cells. In some people, malfunctioning adrenal or pituitary glands may affect the amount of insulin secreted by the pancreas or even the timing of the secretion. With Type 2 diabetes, the pancreas produces enough insulin and there is enough insulin in the bloodstream; but the cells of the body are either resistant to insulin or lack enough working insulin receptor sites to allow the hormone to penetrate the cells. The sluggishness of the receptor sites may at least partly result from pathogens whose wastes are clogging the sites.

Blood sugar levels must remain within a certain range. If glucose is not immediately being utilized as energy by the cells and is left to circulate in the bloodstream, microorganisms will feast and proliferate. The tissues will also acidify. This explains why diabetics are prone to infections. Sometimes the flesh becomes so decayed that limbs are amputated. This extreme level of decay indicates fermentation and the presence of fungi. An associated condition is malformed red blood cells, which clump together due to insufficient oxygen in the bloodstream (and correspondingly decreased electrical charge). The resulting inability of red blood cells to pass through tiny capillaries explains the problem of poor circulation.

Recent medical discoveries suggest the degree of autoimmune involvement in diabetes. In 1999, Dr. Hans Michael Dosch published a paper on the similarities between diabetes and Multiple Sclerosis. Noting an overabundance of pain-signaling nerves around the insulin-producing cells of the pancreas, he and a colleague injected capsaicin (the phytochemical that makes chili peppers hot) to kill the overactive pancreatic sensory nerves in diabetic mice. Almost overnight, normal insulin production began and the mice became healthy. The doctors concluded that the lack of insulin production

Nutrients for Healthy Blood Sugar Levels

Except for perhaps *Tecoma stans* and *Pata de vaca*, the following have been extensively researched and verified to beneficially affect blood sugar levels. They confer other benefits as well.

Balances

- ◆ **Chromium and Vanadium.** Minerals that work together to help the body utilize glucose, thereby reducing carb cravings. People with blood sugar issues have higher requirements of these nutrients.
- ◆ **L-glutamine.** Sweet-tasting amino acid feeds the brain and curbs carb cravings (also builds muscle and repairs gut). Take 1 teaspoon in water before meals.
- ◆ **Vitamin B3 (Niacin).** Increase amounts slowly; it causes skin to flush as it pulls toxins from tissues.

Lowers Insulin Resistance (and thus Blood Sugar)

- ◆ **Aloe vera.** ½ teaspoon daily for 4–14 weeks.
- ◆ **Bitter Melon (*Momordica charantia*).** Boil in water and drink as tea; don't eat raw. Activates enzyme that transports glucose from bloodstream into cells (the same enzyme that's activated by exercise).
- ◆ **Cedar berries (*Juniperus monosperma*),** a different species than juniper berries which can be toxic at high levels). Regenerates pancreas' insulin-producing cells.
- ◆ **Chlorella and Spirulina (algae).** Don't take if you're on anticoagulant drugs; their Vitamin K causes the blood to clot. Be careful with chlorella if you have heavy metal toxicity (see pages 624–626).
- ◆ **Cinnamon Bark, Sweet (*Cinnamomum Zeylanicum*).** Lowers blood glucose only modestly; has more success with pre-diabetic state.
- ◆ **Ginger Root.** Increases cellular glucose uptake without a need for insulin. Also anti-inflammatory.
- ◆ **Ginseng Root (*Panax ginseng*, *American ginseng*).** Lowers carb response in everyone; but diabetics and non-diabetics should take it at different times.
- ◆ **Gymnema sylvestre (*Shardunika*).** Regenerates insulin-producing cells of pancreas.
- ◆ **Neem Leaf and Seed.** Reduces need for insulin. Monitor sugar levels, which might drop too quickly.
- ◆ **Pata de vaca (*Bauhinia forficata*) Leaf.** Amazon rainforest herb used as insulin substitute, sometimes reported as the best blood glucose reducer.
- ◆ **Stevia (whole leaf, not extract).** Also protects liver and kidneys. However, some don't like the taste.
- ◆ **Tecoma stans.** Flowering shrub in the trumpet vine family native to warm wet climates. Used in Mexico for centuries to lower blood sugar.
- ◆ **Turmeric Root.** Powerful insulin sensitizer. Prevents onset of diabetes when taken for nine months. Also protects brain and has anti-tumor effects.

was due to inflammation (and eventual death) of insulin-producing cells. Eliminating the inflammation allowed the cells to function properly. The inflammation apparently also caused insulin resistance. The second link to autoimmune malfunction was made when researchers at the University of Helsinki, Finland, noted a marked increase in diabetes in those who had been fed cows' milk as very young infants. The bovine insulin proteins that had remained intact in the cow's milk were treated as a foreign substance by the human immune cells. After a decade or two, in some adults the immune cells began attacking the human pancreas cells that produce insulin. It's believed that something in the environment or diet triggered the later autoimmune response. The development of diabetes in children who were breast fed was significantly lower than in those fed cow's milk. The studies did not mention the type of milk, but the milk was undoubtedly homogenized and pasteurized rather than healthfully raw; it contained additives such as bovine growth hormone; and it was produced by breeds of cows whose proteins are opiate-like irritants and allergens (see Chapter 3, **Food**, for details).

To treat diabetes, conventional doctors typically prescribe insulin injections to substitute for the insulin that the pancreas isn't secreting. However, most insulin today is synthetic, produced from genetically modified yeast. Its proteins have a very different structure and pattern of folds than those in natural human insulin. This manufactured insulin can have toxic effects, causing cardiovascular problems, cancer, and high rates of death. It may also accelerate the progression of Type 2 diabetes.

Also see, under **GLANDS**, frequencies for balancing the **Adrenals**, **Pituitary**, **Pancreas** and **Thyroid**. Also see **PARASITES, PROTOZOA AND WORMS**, "*Eurytrema pancreaticum* / Pancreatic Fluke"; and **CHEMICAL SENSITIVITY / POISONING**, "Mercury, Aluminum, and Other Contaminants." Also see "Mucormycosis / Zygomycosis" (which often accompanies diabetes), and other fungal forms that may pertain, under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

Be careful with the frequencies between 2000 and 2080! Many users have reported (and I have personally witnessed) a substantial, sudden drop in blood sugar levels after these frequencies were run.

From Bruce Stenulson: 324, 528, 15 in that order, for 4 minutes each. These frequencies are also used for high blood pressure.

1.2 + 250, 6.8, 9.39, 9.4, 15, 20, 35, 40, 48, 72, 95, 125, 240, 302, 440, 465, 484, 500, 522, 600 + 625 + 650, 700, 787, 800, 802 + 1550, 803, 880, 440, 444 + 1865, 428, 1K, 1550, 1800, 1850, 1865, 2K, 2003, 2008, 2013, 2050, 2080 (for 3 minutes), 2127.5, 2170, 2720, 4K, 4200, 5K (for 15 minutes), 10K, 40K

Associated Infection

20, 80, 190, 660 + 690 + 727, 800, 2020

Circulation

2000–2200 range (sweep)

Diabetic Toe Ulcer

Also see the “*Staphylococcus*” entries under **BACTERIA**; **CHEMICAL SENSITIVITY / POISONING**, “Antiseptic Effect, to Produce”; and applicable entries under **HEART, BLOOD AND CIRCULATION**.

1.2 + 250, 20, 333 + 523 + 768 + 786, 832, 1050, 5K, 40K

Hypoglycemia / Low Blood Sugar / Hyperinsulinism

A complex condition causing many symptoms, including vertigo, cramps, abdominal bloating, rapid heartbeat, cold hands and feet, trembling from skipped meals, fatigue, fainting, indigestion, headaches, muscle pains, difficulty in concentrating, depression, moodiness, and a craving for carbohydrates and sweets.

Although not as well known as diabetes, hypoglycemia can be a precursor to diabetes. It can usually be prevented, managed, or eliminated altogether through proper diet. Normally, the pancreas secretes insulin to help transport glucose across the cell membrane and nourish it. However, if one eats too many carbohydrates or sugars at one sitting, too much glucose is released into the bloodstream; and the pancreas, responding to this abnormally high outpouring of glucose into the blood, oversecretes insulin. With excess insulin in the blood, too much glucose reaches the cells too fast, resulting in a sudden drop of available energy. This drop in energy causes hunger and food cravings. The person typically eats something sweet or starchy to bring up their energy level, and the whole cycle repeats all over again. This yo-yo effect puts enormous stress on many glands the pancreas, adrenals, pituitary, liver, thyroid, and sometimes even the ovaries or testes.

The strong emotional component to hypoglycemia is due to the release of hormones. If there's not enough glucose in the blood to feed the brain, it sends a signal to the adrenal glands to produce adrenaline, which stimulates the liver to release its stored glycogen into the bloodstream as glucose. But adrenaline, the “fight-or-flight” hormone, can cause moodiness, depression and panic.

To control and ultimately reverse hypoglycemia, it's mandatory to have a clean diet, high in animal protein and healthy fats, without sugars and most carbohydrates. Animal proteins and fats provide a slow, steady supply of energy that doesn't cause the pancreas to react in “alarm” mode. Read Carlton Fredericks's definitive *New Low Blood Sugar and You*.

Also see, under **GLANDS**, the balancing and normalizing frequencies for **Adrenals**, **Pituitary**, **Pancreas** and **Thyroid**. See **PARASITES, PROTOZOA AND WORMS**, “*Eurytrema pancreaticum* / Pancreatic Fluke.” Also see **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*Candida albicans*,” as fungal forms are often present with blood sugar disorders.

1.2 + 250, 3 + 230, 10, 20, 26, 72, 95, 125, 444 + 1865,

You may not need every frequency in an entry.

To determine which ones you need, try muscle testing or dowsing (see Chapter 4).

600 + 625 + 650, 464, 660 + 690 + 727, 776, 787, 802 + 1550, 832, 880, 1500, 1600, 1800, 2008, 2127.5, 2170, 2720, 2489, 40K

End of Blood Sugar Problems section.

BOIL

See under **SKIN**.

BONE AND SKELETON

Bone contains different types of cells, arranged as either random fibers or as part of a mesh-like spongy matrix, structured somewhat like a honeycomb. Skeletal bones are connected to muscles by tendons, and to other bones at the joint by ligaments. The skeletal bones in the body are made of slightly different material than the teeth, which are even harder to withstand the stress of grinding and chewing.

Despite its density, bone is very lightweight. It's brittle, but possesses some degree of elasticity. Bone marrow, made and stored mostly in the long bones of the body, produces cartilage, more bone, and new blood cells (leukocytes, red blood cells, and platelets). The stem cells also present in the bone marrow can transform into many kinds of tissue.

Bone is a living, ever-changing tissue, consisting of many types of cells fed by blood vessels. Some cells form a hard connective tissue made of collagen. Some cells help mineralize bone with calcium phosphate and other mineral salts. And still other cells produce hormones such as prostaglandin. In the past two decades, research by geneticist and endocrinologist Gerard Karsenty has shown that osteocalcin, a protein-based hormone found in high concentrations in the skeleton, is sent by bone to regulate crucial processes throughout the body—including male fertility (testosterone production increases) and improved blood sugar regulation (it increases insulin sensitivity and amounts). Osteocalcin has also been found to favorably influence sleep, prenatal brain development, cognitive functions (including learning and memory) and emotional responses (such as depression and anxiety). These findings explain why brain function and mood improve with weight training and other load-bearing exercise, and even walking.

A common problem with bone is a fracture. If aligned properly and held together by a splint or cast, the bone will repair itself by forming new cells—first chaotically arranged, and then shaped into a pattern, over time. Repeated stress on a bone (such as from a fracture) generates small amounts of electrical voltage. It is this charge that allows the bone to repair itself—a process that doctors are now duplicating with electromedical devices to speed healing. In *The Body Electric*,

Dr. Robert Becker describes applying minute amounts of electrical current to fractures to help the bone mend quickly.

Degenerative bone breakdown is common, due to immune malfunction, mineral imbalances in the blood, and thyroid disorders. However, dietary changes can favorably alter the condition of bone. Because bone dissolves to give the body calcium salts (which it needs in the blood for metabolic purposes), bone can also reabsorb these salts once the calcium levels in the blood are normal. Vitamin C deficiency can play a huge role, causing what some call “scurvey of the bone.”

If bones are out of position, see a chiropractor. However, if the muscles are tight, they may pull on the bones and cause misalignment; so pay attention to muscles that might be in spasm. For frequencies involving muscles and nerves, see **MUSCLES, BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**, and **INJURIES**.

Ankylosing Spondylitis / Bechterew's Disease (Europe)

Degenerative inflammatory condition involving the spine and adjacent soft tissues, and often the hip and shoulder joints. Symptoms include pain, sometimes accompanied by fever, anemia, and enormous fatigue.

1.2 + 250, 7.69, 7.7, 10, 28, 35, 60 + 100, 95, 110, 428, 600 + 625 + 650, 680, 660 + 690 + 727, 776, 787, 802 + 1550, 880, 3K, 40K

Back Pain, to Reduce

Back pain often results from tight muscles, and secondarily a misalignment of the spine. Kidney inflammation or infection is a less frequent cause of back pain. There may be a strong emotional component: the phrase “holding back” indicates unexpressed emotions, which cause the back muscles to contract. Thus, back pain can be addressed using both physical and psychological approaches. The Magnetex[®] pulls painful debris out of the tissues (see Appendix C) that causes pain. Also consider massage, chiropractic, or osteopathic adjustments. Exercises to strengthen the back muscles can be found in Pete Egoscue's book *Pain Free*. Don't rely on frequencies alone.

15, 17, 326, 677 (for 20 minutes), 760 (for 10 minutes), and sweep 326–328

From Dr. Richard Loyd (for neck pain as well, and in this order): 130.81, 146.83, 164.81, 174.61, 196, 220.2, 246.94, 138.57, 130.81, 146.83, 164.81, 174.61, 196, 220.2, 246.94, 138.57, 155.56, 185, 207.65, 233.08, 138.57, 155.56, 185, 207.65, 233.08, 4.9, 6, 9.19

Backache, including Spasms

A spasm is a movement due to a sudden involuntary muscular contraction, and it can be quite painful. Many pathogens can be involved, particularly *Staphylococcus*. These frequencies are not a substitute for a chiropractic adjustment if the skeletal alignment is off or the spinal cord is torqued or twisted. Muscle spasms often indicate a

magnesium deficiency. Lower back pain indicates a serious kidney disorder more often than you might think, so also see frequencies under **URINARY TRACT, Kidneys**.

First try: 519.34 for 20 minutes.

Then try: 26 (for 15 minutes), 33, 41.2, 120, 146, 160, 212, 240, 305 (for 6 minutes), 326, 333 + 523 + 768 + 786, 424, 464, 466, 522, 528, 555, 660 + 690 + 727, 760, 784, 787, 789, 800, 802 + 1550, 880, 1552, 2112, 2720 (for as long as needed), 3K, 5K, 10K, 40K

Bone Spur

See “Spur, Bone” in this section.

Calcium Metabolism and Utilization, to Improve

Parathyroid disturbance can cause either an excess or a deficiency of calcium in the blood.

First try: 9.6, 10K

Then try: 326, 328, 673.1, 771, 4760.5

Cerebrospinal Conditions

10K, 40K (for as long as desired)

Costalgia

Rib pain, several possible causes. Also see frequencies under **MUSCLES** or under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

880, 787, 660 + 690 + 727, 160, 26, 3K, 1500, 802 + 1550, 2720, 10K, 40K

Disc, Herniated

If the “shock absorber” cartilage between each spinal vertebra changes structure or shape, pressing on the spinal cord or nerve rootlets, this often causes pain.

First try: 15, 25.4, 324, 660 + 690 + 727

Then try: 787, 2720, 10K, 40K

Disc, Slipped / Spine, Misaligned

Misaligned vertebra of the spine that pinches a nerve, causing pain and interfering with the posture and function of the body. Even if a slipped disc results from spasms due to microbial toxins, you'll still need a chiropractic adjustment to align bones that are out of place. Also see “Backache, including Spasms” in this section.

20, 26, 57, 72, 95, 125, 146, 333 + 523 + 768 + 786, 555, 787, 660 + 690 + 727, 880, 40K

Dystonia, Osteitis that accompanies

Bone inflammation that often accompanies flabby muscle tone in the gallbladder (which is comprised of muscle fiber).

2.65, 20, 724, 736, 743, 770, 787, 660 + 690 + 727, 880, 3K, 40K

Elbow pain / Epicondylalgia

1.2 + 250, 26, 160, 2720, 3K, 10K, 40K

Fractures, Cuts and Trauma, to stimulate healing

Physicist Gary Wade reports great success with 1028 Hz, delivered as a square wave with a pad unit at an output voltage of between 3.6 and 6.3 volts. Put an electrode patch on either side of the fracture. Or, say with a degenerating hip, put an electrode on the front and back sides. Some people leave their unit on all night safely, as long as the voltage is not too high and the DC offset is *off*. This also works very well for knee cartilage and connective tissue damage. You can also run 40K for as long as you want. Make sure to take the requisite nutrients so the body has raw materials for repair.

Also try: 7, 25, 50, 220, 380, 418.3, 787, 880, 2720

Fusion

See “Ankylosing Spondylitis / Bechterew’s Disease” in this section.

Infection in Bone

47, 600 + 625 + 650, 660 + 690 + 727, 787, 776, 880, 1600, 1800, 10K, 40K

Inflammation in Bone

See “Osteitis” in this section.

Kieferosteitis

A type of bone inflammation with enlargement and pain. 384, 432, 516

Loss of Bone, to Regenerate

7, 424, 465, 660 + 690 + 727, 784, 787, 880, 1552, 1560, 1577, 2720, 10K, 40K

Mastoiditis

Inflammation of the mastoid bone, behind the ears. 287

Multiple Myeloma

See under **CANCER**.

Neck Pain

See “Back Pain, to Reduce” in this section.

Numbness and Tingling from Pinched Nerve / Paresthesia

Not a substitute for a chiropractic adjustment. Also see “Subluxation / Spine Distortion” in this section. 5.5

Osteitis

Inflammation of bone with irregular cells. It may be accompanied by gallbladder dystonia, or impaired tone of the muscle fibers that comprise the gallbladder. 2.65, 20, 660 + 690 + 727, 724, 736, 743, 770, 787, 880, 3K, 40K

Nutrition for Bones

- ◆ **Calcium.** Mineral. Almost all calcium in the body is in the bones and teeth. Provides bone structure.
- ◆ **Clay.** Edible clay contains many minerals that help bones. Taken internally or used as a poultice (see Chapter 3).
- ◆ **Magnesium.** Mineral involved in over 300 biochemical reactions. Calcium will not enter bone without magnesium.
- ◆ **Boron.** Mineral. Helps maintain skeletal strength by adding to bone density. Prevents osteoporosis.
- ◆ **Phosphorus.** Mineral. Helps build strong bones.
- ◆ **Vitamin K2.** Unlike Vitamin K1 (involved in blood coagulation), K2 helps with bone strength.
- ◆ **Vitamin D3.** Helps absorption of calcium and phosphorus.
- ◆ **Silica.** Mineral. Helps strengthen bones.
- ◆ **Zinc.** Mineral. Protects bones against breakdown.
- ◆ **Comfrey.** Herb. Helps bones knit together. Taken internally, and used in poultices.

Osteoarthritis

The formation of bony protrusions, often in the joints. 770, 1500, 40K

Osteomyelitis

Inflammation of the bone marrow.

2.65, 660 + 690 + 727, 770, 776, 787, 802 + 1550, 832, 880, 1500, 1600, 1800, 2008, 2127.5, 2170, 2720, 2489, 40K

Osteoporosis

Softening and degeneration of bone. The body, which needs calcium for vital metabolic processes such as the transport of nutrients across the cell membrane, leaches calcium from the bones when there’s not enough free calcium in the body. However, without magnesium and boron, a proper acid-alkaline balance, Vitamin D, and balanced electrolytes, the calcium is unavailable to the body. Dr. Sherrill Sellman points out that osteoporosis was purposely misdiagnosed by the pharmaceutical industry to sell drugs—and that synthetic hormones, dairy products, and most calcium supplements actually make the problem worse. Consult a knowledgeable holistic practitioner for nutritional support, as bone deterioration can be stopped and reversed. Don’t rely on frequencies alone to solve this problem.

470.5, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 880, 1600, 1800, 40K

Paresthesia

See “Numbness and Tingling from Pinched Nerve” in this section.

If You Have a Broken Bone in a Cast, Treat the Other Side with an Electrode Unit

Apply electrodes on either side of the sturdy arm or leg—the one that's *not* in the cast—over the same area as the break in the injured limb. By applying electrodes to the leg that you *can* access, the injured side can “learn” from the side that's being treated. This is because most acupuncture meridians are symmetrically placed on both sides of the body. Energizing one side will energize the other. (This will also work with a laser or LED. However, because the light may also penetrate a cast, you can directly address the afflicted side.)

Slipped (Misaligned) Disc

See “Disc, Slipped / Spine, Misaligned” in this section.

Spur, Bone

A knob of bone or hard tissue that protrudes through the skin, causing pain, numbness, sensory loss, and sometimes muscular atrophy. Bone spurs are formed when soft tissue adjacent to a stressed structure becomes calcified. Weak joints, bone misalignment, and an increase in weight can stress and inflame a joint and surrounding area, causing the calcium growth. As bone spurs can crush nearby nerves, blood vessels and soft tissue, surgical removal might be necessary. Also see **INJURIES**, “Heel Pain / Plantar Fascitis” and **ARTHRITIS**, “Rheumatoid Arthritis.”
1.2 + 250

Subluxation / Spine Distortion

Twisting of muscles and spine. Dislocation of bones or organs, which can pinch nerves and cause pain. This is not a substitute for a chiropractic adjustment. Also see “Numbness and Tingling from Pinched Nerve / Paresthesia” in this section.

9.1, 9.6, 66, 110

End of Bone and Skeleton section.

BORDETELLA (PARA) PERTUSSIS / WHOOPING COUGH

See under **BACTERIA**.

BORNA VIRUS / BORNA DISEASE VIRUS (BDV)

See under **VIRUSES**.

BORRELIA / BORRELIOSIS

See under **BACTERIA**.

BOTRYTIS CINEREAS

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

BOTULISM / BACILLUS BOTULINUM

See “*Bacillus Botulinum* / Botulism” under **GASTROINTESTINAL TRACT** or **BACTERIA**.

BOVINE MASTITIS

See “*Streptococcus dysgalactiae*” under **BACTERIA**.

BOVINE SPONGIFORM ENCEPHALOPATHY (BSE) / MAD COW DISEASE

See **PRIONS / AMYLOIDOSIS**.

BRACHIAL NEURALGIA

See “Neuralgia, Brachial” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS

Our mental and emotional states so heavily depend on the proper biochemical function of the brain and nervous system that the psychological cannot be easily separated from the physiological. Thus, the physiological categories of “brain” and “nervous system” are combined here with the less tangible “mind” and “emotions.”

In humans, the easily visible cerebrum with its many folds and wrinkles is the largest section of the brain. Other structures include the cerebellum, limbic system (or “reptilian” brain), and brain stem. The brain contains meninges, three layers of connective tissue membranes that separate the skull from the soft brain tissue. Cerebrospinal fluid circulates between two layers of meninges and brain cavities, acting as a shock absorber. The blood vessels (also between two meninges layers) contain tightly packed cells that form the blood-brain barrier, which protects the brain from toxins in the blood. However, there are still thousands of synthetic chemicals and drugs that can pass this barrier.

The human brain weighs about 35 to 53 ounces (1 to 1.5 kilograms). It is so dense, it would collapse under its own weight if it did not float in the cerebrospinal fluid. The brain regulates intelligence, cognition, emotions, memory, motor skills, sensory input, and involuntary bodily functions including heart rate, blood pressure, fluid balance, and body temperature. The spinal cord is only responsible for simple reflexes and certain types of movement.

Neurons (nerve cells) possess a head with long, delicate hair-like tendrils and a stem encased in a fatty myelin sheath, which provides structure and insulation and helps eliminate waste. Neurons generate minute but potent electrical currents that convey information to other cells. One neuron connects to at least a thousand other neurons in an intricate biological-electrical circuit. Electrical messages travel from the brain through the spinal cord to the rest of the nerves in the body. There are different types of nerves for different kinds of activity: sensory input, temperature, touch and movement, as well as visual, auditory, and olfactory neural pathways.

The autonomic (automatic) nervous system is divided into voluntary and involuntary systems. The voluntary nerves control functions such as muscle movement. The involuntary nerves are further classified into the sympathetic and parasympathetic nervous systems, which have opposite physiological, emotional, and psychological effects (see chart on page 650). Negative stress or danger is processed in several

locations. Input first goes to the cerebral cortex, then to the limbic system in the hypothalamus. This activates the autonomic nervous system, and the fight-or-flight reaction begins. Interactions between the hypothalamus, pituitary, and adrenals are intricately involved in our stress response.

Some of the psychological suffering on this planet is politically and culturally enforced. Most people want to love and be loved. But either they aren't shown how, or they're actively discouraged from openly reaching out to others in a loving manner. This lack of love is especially prominent in technologically advanced, industrialized cultures that emphasize the acquisition of things instead of creative expression; teach obligation and social propriety instead of authentic respect for self and others; and favor technology over the natural world. Mental health is largely defined and enforced by the political institutions of mainstream psychiatry and psychology. These institutions preach the status quo, which states that people must conform and be obedient and unquestioning, foregoing creativity and intelligence—unless these traits are harnessed in service to the power elite. In totalitarian states, deviations from or disagreements with these standards are classified as illness.

Nevertheless, mental health and emotional distress are real issues, certainly to the sufferer. And antisocial behaviors—which in part are due to suppression of people's genuine needs—often reflect emotional turmoil.

Cognitive confusion, emotional instability, and neurological disorders are not only affected by constant stress, fear, survival issues and negative belief systems, but also by nutrient starvation, pathogens, fatigue, toxins, and electromog. If the brain and nervous system are not properly nourished, then our thinking, feeling, perceiving, and motor control are adversely affected. Over 80% of the brain and nerve cells (including the myelin sheaths that surround the long stems of the nerves) are comprised of fat. The myelin provides insulation for the nerves, similar to how rubber covers copper wires in an electrical circuit. Healthy fats are the myelin, and minerals are the electrical wiring. We need both in our diets in order for our brain and nerves to function properly. This is why we need to replenish healthy fats and minerals every day.

Pathogens are often present in people with mental disturbances for several reasons. Stress hormones create an acidic environment, which breeds pathogens. Upset people tend to overeat sugars, starches or alcohol, or use “recreational” drugs or be prescribed toxic pharmaceutical drugs—all of which help create a terrain favorable to pathogens. Finally, someone who hosts many harmful microorganisms also carries more microbial waste, which can induce psychiatric symptoms. Just a few examples of mind-altering pathogens, which modern medicine recognizes, are malaria, Legionnaire's disease, syphilis, typhoid, diphtheria, *Candida*, HIV, rheumatic fever, and *Herpes*.

Environmental toxins frequently cause, or are implicated in, mental and emotional suffering. Brain lesions, epileptic seizures, and symptoms similar to Multiple Sclerosis,

Parkinson's disease, and other nervous system conditions can be caused by the ingestion or inhalation of the toxic metals mercury and lead, the petrochemicals benzene and toluene, the artificial sweetener aspartame (in many foods and drinks, including diet soda), over-the-counter and prescription drugs, and synthetic additives and preservatives. Any contaminant, such as nitrates (added to processed meats), disrupt the beneficial intestinal flora, contributing to the manic phase of bipolar disorder. What affects the gut (known as the “second brain”) also affects the brain, because both respond to the same neurochemicals. (See Chapter 3, **Detoxification**, for more information on toxins and their removal.)

Electromog (electrical pollution / dirty electricity) plays a huge role in mental health. Watching TV, and using mobile phones and computers—especially at night—make people more unhappy and lonely, as well as prone to developing bipolar disorder, insomnia, and other issues.

Structured psychological support can be helpful in many cases. Frequencies are not a replacement for Reichian therapy, PSYCH-K®, hypnosis, or other emotional healing work. The self-administered Emotional Freedom Technique (EFT) is reported to have a high success rate in reducing stress and lessening, if not completely eliminating, negative physical and emotional conditions (see Appendix A).

Nerve conditions may also be connected to excess mucin—a hydrophilic (water-loving), sugar-protein compound naturally present in the connective tissue that surrounds and binds nerve cells together. When mucin is present in abnormal amounts, excess water accumulates and health problems result. Over half of those who suffer from hypothyroidism have excess mucin in their bodies, so also see **Glands, Thyroid**, “Thyroid, Underactive / Hypothyroidism.”

The brain cannot manufacture its own fuel. It depends on precisely controlled amounts of glucose in the bloodstream. Thus, many people with diabetes and hypoglycemia experience depression; see **BLOOD SUGAR PROBLEMS**. Also see “Mercury, Aluminum, and Other Contaminants” and other entries under **CHEMICAL SENSITIVITY / POISONING**. The Lyme spirochete is often present in neurological disorders, so see **BACTERIA**, “*Borrelia*, all types / Borreliosis / Lyme Disease.” Also consider the role of prions, especially in dementia-like ailments. See **PRIONS / AMYLOIDOSIS** for more details, including information on how to remove them.

Mental and emotional disorders, along with illnesses of the brain and nervous system, are complex and multifaceted. Experiment to find what protocols work best for you.

General Aid, Toxin Related

4.9, 20, 72, 95, 125, 146, 428, 522, 802 + 1550, 10K, 40K

General Nerve Conditions

Try in this order: 40K, 10K, 2720, 2489, 2170, 1800, 1600, 660 + 690 + 727, 650 + 625, + 600, 880, 787, 802 + 1550, 125, 95, 72, 20, 440, 40K

Nutrients for the Brain and Nervous System

- ◆ **Essential Fatty Acids (EFAs).** Many brain and nervous system disorders can be corrected by EFA supplementation. The best fats for the nervous system are from grass-fed beef, fresh fatty fish, raw dairy (if tolerated), and coconut and (smaller amounts of) olive oils. Fresh ground flax is sometimes recommended, but many people lack the enzyme that converts flax into the type of fatty acids that the body can use.
- ◆ **Magnesium.** For the mineral-hungry neural wiring of the body, magnesium is key: It's utilized in over 300 body processes. Due to contaminants and deficiencies in our water and food, most people are deficient. Inadequate magnesium may be a key cause of many neurological problems, including stroke, Parkinson's, migraines, schizophrenia, bipolar disorder, Alzheimer's, and even autism.
- ◆ **Lithium orotate (the mineral, not lithium carbonate the drug).** In all tissues of the body. Lithium helps 85% of those suffering from stress, emotional problems, and physical illness. It protects the brain from the effects of heavy metals, pharmaceuticals and microbial toxins; raises low white blood cell counts; helps with liver disorders; and alleviates discomfort from migraines and cluster headaches. It may also hinder the reproduction abilities of many viruses. German medical doctor Hans Nieper found that the best form of the nutrient is lithium orotate, because the orotic acid salt, to which the lithium is bound, easily crosses the blood-brain barrier in low amounts and releases the lithium into the brain. Lithium orotate reduces to elemental lithium. It's the mg amount of elemental lithium that people follow when they take lithium orotate. Most people require between 5 and 15 or even 30 mg a day, although Dr. Jonathan Wright administers up to 40 mg a day without unwanted effects. People with alcoholism have safely taken up to 150 mg of elemental lithium a day. Lithium's use for so many emotional and addictive disorders suggests that those who suffer from imbalances might simply be deficient in this trace mineral.
- ◆ **Turmeric Root.** This powdered root, widely used in Indian cooking, provides high levels of protection to the brain and nervous system. Curcumin (which gives turmeric its bright golden color) is used for bipolar disorder, psychoses, depression, post-traumatic stress disorder (PTSD), obsessive-compulsive disorder (OCD), and even autism. An antioxidant and anti-inflammatory, turmeric is also effectively used as protection against cancer.
- ◆ **Amino Acids.** Deficiencies of these protein building blocks play a huge role in mental and emotional health because neurotransmitters are comprised of amino acids. For emotional or mental imbalances, some people take 1 teaspoon of L-glutamine powder with ¼ teaspoon of L-tyrosine powder, under the tongue several times a day. These two amino acids must be taken together, and in powder form, for the brain to benefit. L-glutamine also helps curb carbohydrate cravings and balance blood sugar levels, whose disruption negatively affects mental health. Taken in larger amounts (1 tablespoon three times a day), it heals the gut. L-glutamine has a naturally sweet taste, so it's easy to eat and can be added to other foods.
- ◆ **Proper Balance of Proteins, Fats and Carbohydrates.** Most people eat too many carbohydrates, refined or otherwise. Excessive carbs deplete the system of Vitamin B1 (thiamine), which is critical to brain and nerve function. B1 deficiency can cause mood swings, irritability, depression, confusion, and fatigue. Chemical additives and other non-foods also deplete nutrients and prevent them from being absorbed. Extremely sensitive people may simply have higher requirements of certain nutrients than other people, and suffer from deficiencies that cause symptoms we call "illness."
- ◆ **Real Foods.** Diet plays a major role in mental health. Don't eat fake food or gluten! Gluten, a sticky protein compound in wheat and other grains, interferes with neurotransmitter receptors and thus causes many neurological problems. About 50% of people who are depressed are estimated to have high levels of antigliadin enzymes (gliadin is one of the allergenic components of gluten). Because gliadin destroys the lining of the gut, it causes an unlimited number of disorders ranging from joint pain to schizophrenia. Casein, a milk protein, has similar effects (see Chapter 3, **Food**). Gliadin and other allergens in gluten, along with milk proteins (casein), also destroy the beneficial friendly intestinal bacteria. Friendly flora in the gut are one of the major contributors to mental health. The gut is literally the "second brain," so what affects the gut affects the brain. (Almost 90% of the neurotransmitter *serotonin*, which induces calm and well-being, is produced in the gut.) In *The Mood Cure*, Julia Ross explains how to correct the nutritional deficiencies involved in depression, addictions, obsessive-compulsive disorder (OCD), uncontrollable anger and rage, and more.

Actinomycosis

Infection of the brain, lungs, gastrointestinal tract or jaw caused by the fungus *Actinomyces bovis*.

1.1 + 73, 20, 160, 220, 464, 660 + 690 + 727, 787

Addiction to Food, Alcohol or Drugs

Also see “Alcoholism,” “Calming, to Produce,” and “Depression” in this section. Read *The Mood Cure* by Ross. From Dr. Loyd: 830.61, 783.99 739.99, 15.9, 698.46, 659.26, 622.25, 587.33, 554.37, 523.25, 493.88, 466.16, 440. Also try 20.

Akathisia / Agitation

Nervousness and restlessness commonly associated with the inability to remain seated. The so-called “side effects” of certain drugs such as Prozac® can create jitteriness, anxiety and tension that appear similar to the characteristics of Attention Deficit Disorder. A magnesium deficiency may exist. The frequencies below are also used for insomnia. Also see **SCHUMANN RESONANCES**.

3 + 230, 7.83, 40K

Alcoholism

The over-consumption of ethanol alcohol (beer, wine, hard liquor) that among other symptoms causes edema of the brain, tissue degeneration, abnormal respiration, impaired judgment, incoherent speech, lack of muscular coordination, and depression. Alcohol consumption often leads to antisocial behavior ranging from drunk driving to interpersonal violence, but alcoholism is more than a behavioral, social or even emotional problem. It both reflects and causes imbalances of the brain. The “high” one feels when drinking is from neurological impairment.

Alcohol causes nutrient deficiencies, just as nutrient deficiencies can cause alcohol addiction. Sugar is metabolized poorly (which may indicate hypoglycemia or diabetes), so the person craves alcohol in an attempt to instantly replenish sugar levels. Thus, alcoholism can be regarded as the addiction to rapidly metabolized sugars and carbohydrates in the form of alcohol.

Subjects probably harbor fungi and parasites that are clamoring to be fed their favorite food (easily assimilable sugars)—causing the human host to develop an addiction to alcohol (or sugar) in order to feed them. Eliminating pathogens is an important step, but the addiction may return unless one makes changes in diet, lifestyle and attitude, and faces any fears, traumas, or metabolic disorders that originally induced the drinking.

The 1986 journal article “Lithium orotate in the treatment of alcoholism and related conditions”¹¹ reported how lithium orotate—which is a mineral, unlike the drug lithium carbonate—was successfully used with very few undesirable effects. If you want to use more than 30 mg or 40 mg a day of this mineral, consult a health care provider versed in the use of lithium for therapeutic purposes.

Symptoms of alcohol poisoning are very similar to symptoms of an overgrowth of *Candida albicans* or other *Candida* strains. The fungi excrete acetaldehyde (a potent toxin chemically related to formaldehyde), which interferes with the body’s neurotransmitter pathways, metabolism, immune response, and nervous and endocrine systems. A craving for alcohol may indicate a *Candida* infection and vice-versa; so make sure to run the *Candida* frequencies under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

Alcoholism is a complex condition, so all of its roots must be addressed. Sauna therapy and other detoxification protocols could help. Also see “Meningitis” in this section (to manage the swelling in the brain that occurs with advanced alcoholism); **LYMPHATIC SYSTEM**, “Lymph System Circulation / Drainage, to Increase”; **URINARY TRACT**, **Kidneys**, “Kidney Function, to Balance and Normalize”; and, under **LIVER AND GALLBLADDER**, **Liver**, the “Hepatitis” entries and “Liver Function, to Support and Balance.” Alcoholism can cause (or reflect) hypoglycemia or diabetes, so also see **BLOOD SUGAR PROBLEMS**.

Hangover

Acute toxicity in the blood and lymph, resulting from alcohol ingestion. Symptoms include head and body aches, gastrointestinal disturbances, blunted motor responses, and malaise.

146, 522, 10K, 40K

Alzheimer’s Disease

A brain-related disorder usually affecting the elderly, featuring memory loss (first short-term and then long-term), difficulty in planning and solving problems, mental confusion, trouble understanding visual images and spatial relationships, problems speaking and understanding words, poor judgment, and mood and personality changes (including delusions, paranoia, and repetitive behaviors). Severely impaired individuals may require assistance with personal care and even feeding. In the final stages, muscles may become abnormally rigid or flaccid, and people cannot swallow or hold themselves up without support.

Alzheimer’s is characterized by distinctive markers. Amyloid plaques (also known as neuritic plaques or senile plaques)—which are toxic sticky proteins that accumulate outside of nerve cells—can both cause and indicate cognitive dysfunction. Pericytes, cells found near blood vessels, control the flow of blood to different parts of the brain by expanding and contracting. When they degenerate, or there’s an inadequate supply, nerve cells suffocate and malfunction due to the oxygen loss. Neurofibrillary tangles, toxic protein structures in the brain, are involved in neurological impairment as well.

Establishment medicine has no cure for Alzheimer’s, but holistic medicine understands the role of pathogens and environmental toxins. Many vaccines contain the poisonous mercury compound thimerosal and/or the toxic metal aluminum. Abnormally high levels of both

The Autonomic (Automatic, or Involuntary) Nervous System has two complementary branches.

Sympathetic Nervous System Psychological Components: Anxiety, Lack of Pleasure Physiological Component: Contraction	Parasympathetic Nervous System Psychological Components: Contentment, Pleasure Physiological Component: Expansion
Inactivity of salivary glands, producing a dry mouth—the mouth is “dry with fright.”	Activity of salivary glands, producing a moist mouth—a “mouth watering” situation.
The smooth muscle of the iris in the eye contracts, allowing the pupil to dilate and more light to enter the eye (so we are literally blinded by fear).	The smooth muscle of the iris in the eye relaxes, allowing the pupil to constrict and less light to enter the eye (so we literally see more clearly).
Inhibition of the lachrymal or tear glands, producing “dry eyes”—associated with depression.	Stimulation of the lachrymal or tear glands, producing moist, lubricated and glowing eyes—associated with joy.
Stimulation of the sweat glands in face and body so that the skin is moist; person feels “clammy and cold with fear.”	Reduction of activity of sweat glands in face and body so that skin is dry; person feels “cool, calm and collected.”
Reduction of digestive movement and secretion of digestive fluids—too anxiety-ridden to readily assimilate nourishment.	Increase of digestive movement and secretion of digestive fluids—being at ease fosters assimilation of nourishment.
Contraction of the arteries: blood flows away from surface of skin, producing a pallor and psychologically and physiologically indicating a coolness or coldness.	Dilation of the arteries: blood flows to surface of skin, producing a healthy glow and psychologically and physiologically indicating warmth.
Increased secretion of adrenal stress hormones, indicating fear and anxiety (fight-or-flight response).	Decreased secretion of adrenal stress hormones, indicating feelings of security and peace.
Scalp muscles are excited, so hair literally “stands on end.”	Scalp muscles are relaxed.
Calcium ion mineral group predominates.	Potassium ion mineral group predominates.
Increased secretion of acid fluids, which dehydrates the system and can lead to illness.	Increased secretion of alkaline fluids, which hydrates the system and stimulate good health.
Decreased susceptibility to electrical stimulation.	Increased susceptibility to electrical stimulation.
Increased need for oxygen and increased oxygen consumption.	Decreased need for oxygen and decreased oxygen consumption.
Increased blood pressure.	Decreased blood pressure.
Tightening of smooth musculature in male scrotum and female vagina, inhibition of glandular secretions, decrease of blood supply, reduction of sexual feeling.	Relaxation of smooth musculature in male scrotum and female vagina, stimulation of glandular secretions, increased blood supply, increase of sexual feeling.

Adapted from Wilhelm Reich's *The Function of the Orgasm* (1973), and from *Zeitschrift für Politische Psychologie und Sexualökonomie*, Vol. 1, 1934

aluminum and mercury have been discovered in the brains of people with Alzheimer's—who, not coincidentally, receive a disproportionate number of flu shots compared to the general population. These toxic metals contribute to the formation of amyloid plaques. Replace mercury amalgam fillings with porcelain or composite. Don't cook with aluminum pots. Consider a chelation protocol (pages 624–626) or sauna-niacin program (page 696) to bind and excrete toxic metals. Due to the involvement of heavy metals, see **CHEMICAL SENSITIVITY / POISONING**, “Mercury, Aluminum, and Other Contaminants.”

Another poison that contributes to Alzheimer's is fluoride. Known to calcify the pineal gland, fluoride prevents it from secreting the vital hormone melatonin. A calcified pineal, which literally contains crystals of calcium phosphate, typically appears as a lump of calcium during a magnetic resonance (MRI) scan. People with Alzheimer's are commonly deficient in melatonin. They are also observed to possess a higher degree of pineal gland calcification than people with other types of dementia.

Neurologist David Perlmutter states that Alzheimer's is preventable, and that (as with many neurological issues) it results from heavy consumption of sugars and carbohydrates. In 2005, scientists discovered that the brain produces and depends on insulin, which protects its cells from deteriorating. Amyloid-derived diffusible ligands, toxic proteins caused by inflammation, interfere with brain signals because they remove insulin receptors from the brain neurons. Sugar is a culprit, leading some researchers to call Alzheimer's “Type 3 Diabetes.” Eliminate glutinous grains (see Chapter 3, **Food**).

Nutrient deficiencies exist. Researchers found that a decrease in Alzheimer symptoms correlates with increased levels of magnesium in the brain. Magnesium-l-threonate is the form of this mineral that easily crosses the blood-brain barrier and nourishes the neural brain tissue. Try the mineral lithium orotate. Also, be aware that a Vitamin B12 deficiency can exactly mimic the symptoms of Alzheimer's. Sometimes, supplementing with Vitamin B12 alone reverses the symptoms.

The orange-gold root turmeric, used in Indian cooking for centuries, contains hundreds of compounds including curcumin. Curcumin blocks the formation of the amyloid plaques that cause Alzheimer's to develop, but it's the synergistic effect of the entire turmeric root that helps stimulate the growth and number of healthy neural stem cells. Not surprisingly, India has among the lowest rates of Alzheimer's and dementia of any country in the world.

Minimally processed coconut oil has also been found to protect against nerve damage and restore brain function to such an extent that it reverses the symptoms of people with Alzheimer's, Parkinson's, and other neurological disorders. Virgin olive oil, from the first pressing of olives, may also offer protection against Alzheimer's because it reduces inflammation in the brain, and helps break down toxins and remove them from the cells.

Dr. Lida Mattman found the Lyme spirochete in every person she treated for Alzheimer's. A twelve-year study done by Johns Hopkins, Duke, and Utah State Universities researchers found, in 2010, that husbands or wives who cared for spouses with dementia were six times more likely to develop dementia themselves. While a shared diet (and shared visits to the doctor for vaccinations) could play a role, in some cases Alzheimer's may be acquired—due to contagious pathogens or even prions, which researchers suspect also play a role in Parkinson's. Thus, for this condition, eliminate pathogens and prions. Also see, under **BACTERIA**, “*Borrelia*, all types / Borreliosis / Lyme Disease,” “*Mycoplasma*, many types,” and “*Treponema denticola*. Under **VIRUSES**, **Herpes**, **all types**, see “*Herpes simplex 1*,” “*Herpes Virus Type 5* (Human *Herpes Type 5*) / Cytomegalovirus (CMV) / Salivary Gland Virus,” and “*Herpes Virus Type 6* / Human *Herpes Type 6*.” Also see “*Candida albicans*” under **CANDIDA, FUNGI, MOLDS AND YEASTS**. And see **PRIONS / AMYLOIDOSIS** for more details, including information on how to remove them.

40, 430, 620, 624, 840, 866, 2213, 5148, 19180.5

Amyotrophic Lateral Sclerosis (ALS)

Sometimes also called Motor Neuron disease or Lou Gehrig's disease (after the baseball player who was afflicted with the condition). Degeneration of spinal cord in the form of hardening, thickening, and inflammation. Eventually it atrophies, and may lead to spastic paraplegia.

Research continues on the involvement of pathogens. In 1990, John J. Halperin, a medical doctor very experienced in neurological infections, reported that almost every person he ever treated for ALS tested positive for Lyme disease. Similarly, medical doctor Dietrich Klinghardt has reported that without exception, every person in his clinic with ALS (or Multiple Sclerosis or Parkinson's) has tested positive for Lyme. Therefore, see **BACTERIA**, “*Borrelia*, all types / Borreliosis / Lyme Disease.” Yet another doctor reports that every person he treats for ALS has tested positive for the microorganism *Mycoplasma fermentans*. So, see “*Mycoplasma*, many types” under **BACTERIA**. Also see **VIRUSES**, “ECHO Virus / Enteric Cytopathic Human Orphan Virus / Nonpolio Enterovirus Infection,” as French researchers implicated this microorganism in a majority of ALS cases. Dr. Richard Loyd found toxoplasmosis in every case of ALS he's managed, so also see **PARASITES, PROTOZOA AND WORMS**, “*Toxoplasma gondii* / Toxoplasmosis.” Try “Multiple Sclerosis” and other entries in this section. Finally, mold toxins may be involved, so see **CANDIDA, FUNGI, MOLDS AND YEASTS**.

Some of these are from Michael Tigchelaar: 254, 303, 430, 470, 484, 610 + 692 + 980, 620, 624, 644, 660 + 690 + 727, 742.4, 790, 864, 866, 986, 1918, 2213, 2900 (for 5 minutes), 5148, 40K (for as long as desired)

Transcranial Direct Current Stimulation (tDCS)

Imagine inhibiting neural activity in portions of the brain that are too active (responsible for addictions, pain, and insomnia)—and facilitating brain activity in centers you wanted to improve (learning, creativity, memory). With very gentle electrodes placed on the scalp, you can do just that. See Appendices A and C.

Anger

When waste materials from microbes get into the brain, all kinds of emotional and physiological reactions can result. These frequencies are also useful for hostile dogs and cats. Also see other entries in this section.

3.6, 3.9, 6.3

Apoplexy

See “Stroke Paralysis / Apoplexy” in this section.

Arm Pain

See “Neuralgia, Brachial” in this section.

Asthma / Bronchial Asthma

Spasm or swelling of the bronchial tubes in lungs. There is often an emotional component to this symptom picture, as many people suffering from asthma harbor unresolved feelings, mostly grief and sadness. Avoid eating dairy, sugars, grains, citrus, excess red meat, and any other mucus-producing foods. Also try to avoid areas that are full of mold, mildew, and other pollutants.

0.5, 20, 72, 95, 125, 146, 444 + 1865, 522, 660 + 690 + 727, 787, 810, 880, 1233/1234, 1283, 1500, 1600, 1800, 2170, 2720

Astrocytoma

See “Brain Tumor / Astrocytoma” under **CANCER**.

Ataxia

Lack of muscle coordination. Results might be slow if nerve damage exists, but brain cells can regenerate, so keep trying.

20, 72, 95, 125, 444 + 1865, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 807, 813, 880, 1500, 1600, 1800, 2170, 2720, 40K

Ataxia, Spastic

See “Spastic Ataxia” in this section.

Attention Deficit Disorder (ADD) / Attention Deficit Hyperactivity Disorder (ADHD)

This diagnosis has become a political issue. If children are restless because they are bored in school, officials have an excuse to label them with an unfavorable mental health diagnosis, and then fill them with poisonous drugs.

If the child is genuinely hyperkinetic and unfocused, and you are sure that there is no sexual abuse or other trauma, eliminate food additives including the artificial sweetener aspartame, and allergenic substances such as wheat, processed dairy, soy, and other irritants (a good idea anyway). Newer research shows abnormally low levels of iron in ADD children, indicating poor absorption. There may also be low levels of B12 and methylfolate (see Chapter 3, **Nutritional Supplements**, about conversion problems), Vitamin C, and digestive enzymes—all of which help with iron absorption. Also check for a displacement of the atlas, the highest bone in the spine, just below the occiput (back of the head). When the atlas is displaced, the resulting pinched nerves cut off enough energy flow to help produce the varied and often bizarre symptoms that the medical field characterizes as ADD.

Prozac® and other drugs given to hyperactive children often cause the very symptoms they purportedly alleviate, so there's no excuse for drugging children (or adults, either). No one ever became ill from a Prozac® deficiency. Essential oils containing large amounts of sesquiterpenes—sandalwood, rosewood and chamomile—offer great benefits when rubbed on the skin. The frequencies below are experimental. Also see “*Shigella*” and the “*Chlamydia*” entries under **BACTERIA**; and various entries under **CHEMICAL SENSITIVITY / POISONING**.

3 + 230 (also used for insomnia), 470, 471.5, 621, 762, 769, 770, 802 + 1550, 940.1, 942.9, 1880.1, 1885.9, 3760.1, 3760.3, 3771.7, 7520.5, 7543.4, 15125832

Autism

A broad spectrum of behavioral, mental, and emotional dysfunctions beginning in childhood. Symptoms can include poor communications skills (using gestures or pointing instead of words); inappropriate verbal response (either lack of speaking, or repeating words or phrases in place of normal, responsive language); poor motor dexterity; sudden laughing or crying; social and emotional aloofness; tantrums; aversion to being touched; poor or no eye contact; inability to understand or fear danger; overactivity (spinning and twirling, of self and objects); underactivity; an obsessive preoccupation with inanimate objects; and resistance to change. Autism now strikes 1 in 68 children, of whom about two-thirds are boys.

High numbers of normal children become autistic after being given injections—particularly if vaccines contain more than one pathogen and/or the mercury-based preservative thimerosal. A negative reaction can occur in 24 hours or could take several months.

Mercury is much more difficult to expel when injected than eaten. By 15 months old, most children have been injected with over 200 times the EPA-approved “safe” levels of mercury (thimerosal) as well as aluminum. These metals, along with pathogens and chemicals (also in vaccines), were never meant to be injected into veins (see Chapter 1, **The Vaccine Controversy**). The

metals collect in brain and nerve tissue. Stealth viruses have also been found by some researchers in the blood, cerebrospinal fluid, and gastrointestinal biopsy samples in the majority of autistic children. This suggests that at least some cases of autism are caused by a stealth virus infection in the brain.

Nutritional deficiencies such as magnesium, or food triggers such as wheat and dairy, can play a huge role in autism. Autistic children put on a casein-free and gluten-free diet usually improve because the casein in dairy, and the gluten in wheat and other grains, are highly allergenic. When an allergy is present, the body often lacks enzymes to break down food. This allows incompletely digested particles to circulate in the bloodstream and irritate the tissues. Other proteins may also be present to which the body reacts negatively: it's common for unmetabolized substances to reach areas in the brain involved with learning and speech, and latch on to the brain's naturally-occurring opiate receptors. This causes symptoms similar to those of being drugged. Autism can also be caused or exacerbated by preservatives and food dyes along with foods. Remove wheat, all dairy (commercial or raw), soy, food colorings, preservatives, chemical poisons, and known or suspected food allergens from the diet.

Autistic children lack sufficient beneficial intestinal flora (sometimes due to antibiotics, which destroy the flora). When the friendly gut flora is reduced, harmful bacteria proliferate and migrate to the brain. This can cause "brain poisoning" that manifests as autism. Supplementation with probiotics usually produces profound and positive changes because a disturbed, malfunctioning gut equals a disturbed, malfunctioning mind. Also try the mineral lithium orotate (see the beginning of this main category).

Another contributing factor to autism may be emotional trauma such as sexual abuse. If there's obvious psychological distress and trauma, take the child to an experienced psychotherapist who specializes in trauma. If it's not clear whether the causes are biochemical or emotional, begin therapy from a biochemical standpoint and then you'll more easily see what's left to treat. An experienced naturopath, homeopath or other holistic practitioner may make the difference between suffering and wellness for your child.

In many cases, parents are forced to vaccinate and they don't have legal standing to sue drug companies or doctors if the child becomes ill. Try chelation and sauna therapy, a simple and effective way to eliminate heavy metals and other toxins. See my book, *The Holistic Handbook of Sauna Therapy*, for more information. Also, don't be afraid to try MMS (sodium chlorite); its negative press is undeserved. With oxidative properties similar to ozone and hydrogen peroxide, MMS kills pathogens and neutralizes poisons, both of which have proven connections to autism. Get Jim Humble's *MMS Health Recovery Guidebook* or see

kerririvera.com. Kerri, the mother of a formerly autistic child, has helped hundreds of children with her protocol.

See **BACTERIA**, "*Clostridium difficile*," as this microbe emits toxins that can manifest as schizophrenia. Also see, under **BACTERIA**, the "*Shigella*" and "*Chlamydia*" entries and "*Borrelia*, all types / Borreliosis / Lyme Disease." See **CHEMICAL SENSITIVITY / POISONING**; and "Attention Deficit Disorder (ADD) / Attention Deficit Hyperactivity Disorder (ADHD)" in this section. Autistic children are loaded with parasites, so also see applicable entries under **PARASITES, PROTOZOA AND WORMS**, including "*Funis vermis* / *Homo Funis vermis* / Ropeworm," an unusual parasite that was recently discovered in autistic people.

Back Pain, to Reduce

See **BONE AND SKELETON**, "Back Pain, to Reduce."

Bed Wetting / Enuresis

Surprisingly large numbers of children wet their beds due to diet. Major allergens include citrus, corn, tomato, soy, and adulterated (homogenized and pasteurized) dairy products. Spices, food colorings, and caffeine (found in both coffee and chocolate, a child's favorite) are also irritants. Children may also wet their beds if they feel frightened or neglected. Toilet training at too early an age or sexual abuse are common causes—either of which (the emotional component aside) provides a breeding ground for microbes. With adult incontinence, the same microorganisms are implicated. Bed wetting can also be caused by a parasite infestation, so see "*Enterobius vermicularis* / Pinworm / Seatworm" under **PARASITES, PROTOZOA AND WORMS**; or under **GASTROINTESTINAL TRACT, Small Intestine**.

Run for 10 minutes each: 465, 660 + 690 + 727, 787, 802 + 1550, 880, 2050, 2128, 2250, 10K, 40K

Bell's Palsy

Partial or complete paralysis of the face, often caused by an inflammation or infection in the seventh cranial nerve. This causes droopy mouth, an eyelid that might not close, numbness, and muscle spasms and heaviness. Many pathogens could be involved. The condition often goes away by itself, but if it's caused by dangerous pathogens—such as those involved in Lyme and similar diseases—it could be permanent. Each frequency below is for 3 minutes minimum; try them every day for several weeks. Also see viruses, "*Herpes Virus Type 3* / *Herpes zoster* / Chicken Pox / *Varicella* / Shingles." Because Bell's Palsy can be caused by either the spirochete involved in Lyme disease or especially black mold, also see **BACTERIA**, "*Borrelia*, all types / Borreliosis / Lyme Disease" **CANDIDA, FUNGI, MOLDS AND YEASTS**, "*Aspergillus niger*."

2.4, 3, 3.9, 7.83, 20, 27.5 + 220 + 410, 33, 35, 40, 93.5, 470.5, 570.5, 72, 90.88, 110, 125, 194, 222, 304, 393.5, 464, 565.5, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 833, 880, 1250, 40K

Bipolar Disorder / Manic Depression

Bipolar disorder is also called “manic depression” because a person’s mood can alternate between a mania high and a depressive low. Mood swings can last hours, days, or longer. Symptoms are characterized by extreme changes of cognition, energy, and behavior. The high, manic end may include increased physical and mental activity; feelings of exaggerated optimism and self-confidence; a decreased need for sleep; an inflated sense of grandiosity; aggressiveness; irritability; racing speech, thought and movement; impulsive and reckless behavior; poor judgment; and distractibility, delusions, and hallucinations. The low, depressive end may include prolonged sadness and depression; crying spells; agitation and anxiety; anger; worry; pessimism; indifference; marked changes in sleeping and eating; fatigue and lethargy; difficulty concentrating; social withdrawal; feelings of guilt and worthlessness; aches and pains; and recurring thoughts of suicide and death. People on manic episodes are known to spend money they don’t have, talk fast, and engage in high-energy projects and high-risk, dangerous behavior. This disorder is different from “regular” depression because there is always a manic episode. Some people have more manic episodes than others.

Bipolar disorder is thought to affect over two million adult Americans. It begins in late adolescence (often

appearing as depression) and affects equal numbers of men and women. It appears to be found among all ages, races, ethnic groups, and social classes. It may run in families.

This condition is real, even though the diagnosis is made by medical personnel eager to treat with drugs. However, the fact that nutritional and herbal supplements are used successfully indicates that the biochemical imbalances in the brain are nutrient-based. (As holistic practitioners are fond of saying, no one is born with a Prozac® deficiency.) Omega 3 fatty acids (which include eicosapentaenoic acid or EPA, and docosahexaenoic acid or DHA) improve heart health, immune function, and in many cases, depression and cognitive abilities. They are in shellfish, sardines, albacore tuna, salmon, flaxseed, and walnuts. Two herbal supplements used for depression are St. John’s wort (*Hypericum perforatum*) and S-Adenosyl-L-Methionine (SAM-e). St. John’s wort is believed to prevent nerve cells in the brain from reabsorbing the brain chemical serotonin, thus relieving depression. SAM-e, which is concentrated in the liver and brain, plays a vital role in regulating serotonin and dopamine, two chemicals that influence mood. Both supplements are widely used in Europe to treat arthritis and depression. Also try the mineral lithium orotate; see the beginning of this section for details. Finally, a magnesium deficiency may exist.

The parasite *Toxoplasma gondii* has also been strongly linked to schizophrenia and bipolar disorder. In the latter

Underappreciated Amino Acids

Almost all people with health issues have one thing in common: some degree of digestive failure. One result is that there is a lack of free amino acids. Even if people eat steak three times a day, there is protein starvation at the cellular level because only partially digested proteins in the form of amino acid clumps are absorbed into the blood, rendering those proteins useless. Imagine a bricklayer who is hired to build a brick wall. He arrives at the site. The truckload of bricks arrives. He reaches into the truck and pulls out a brick only to find that another five or six bricks are stuck to it with ends sticking out in all directions. He pulls a second brick and discovers another useless clump.

This is what the body faces. It needs to make thousands of metabolic enzymes and other necessary chemicals, but does not have the raw materials. It cannot get them from food because the digestion is not efficient enough. Even supplementation of stomach acid and enzymes usually does not enable the body to make enough free amino acids.

One compound that is necessary for health in a polluted world is metallothionein. The body uses metallothionein to carry away mercury and other toxic metals. But the body cannot make this material if there is a shortage of free amino acids. Researchers find deficiency of metallothionein production in cancer and in all or nearly all cases of autism. I suspect it will be found in many other conditions.

The body also needs free amino acids to make neurotransmitters. I am hearing reports from people recovering from depression and anxiety while using amino acids. The immune system also needs free amino acids.

Fibromyalgia is another condition where there is an amino acid deficiency. Other conditions that involve a lack of free amino acids include skin wrinkling, thinning of hair, and weak fingernails, along with more serious conditions such as digestive failure, irritable bowel, chronic fatigue, spinal disk degeneration, joint degeneration, osteoporosis, pain, stiffness, infections, and stress to every tissue in the body.

Amino acids are food. They are not medication and they do not “cure” anything. They do not make anything happen. They simply provide raw materials to the body. When combined with vitamins, minerals (especially sulfur) and essential fatty acids, they just help people move toward health. I believe that amino acid supplementation is the fastest and safest method of heavy metal removal.

—adapted from Richard Loyd, PhD, 2016
royalrife.com/amino.html

part of the 1800's, when house cat ownership became popular, these conditions, which had been almost non-existent, became fairly common. This parasite is carried by house cats and expelled through their feces. The affected house cats then jump from the contaminated litter boxes and walk over furniture and food preparation surfaces. In humans, this parasite causes brain lesions, changes in personality, and symptoms of psychosis, including auditory hallucinations and delusions.

See **PARASITES, PROTOZOA AND WORMS**, "*Toxoplasma gondii* / Toxoplasmosis." See, under **BACTERIA**, "*Borrelia*, all types / Borreliosis / Lyme Disease" and the "*Strep*" entries. See, under **VIRUSES**, "Borna Virus / Borna Disease Virus (BDV)," "*Herpes Virus Type 5* (Human *Herpes* Type 5) / Cytomegalovirus (CMV) / Salivary Gland Virus," and "Retrovirus, variants," as studies show a strong link between these microbes and mental illness. Especially in children, abrupt onset of Obsessive-Compulsive Disorder (OCD) is linked to *Strep* infection. For 5 minutes each: 802, 263.1, 304, 6K, 6130.

Brachial Neuralgia

See "Neuralgia, Brachial" in this section.

Brain Damage

This is a large category with many possible causes. Dr. Robert Vink (see References) found that in many cases of mild to moderate brain damage, magnesium can correct structural malformations of the neurons and hence resolve symptoms. For some types of brain injury (including acute-onset injury), the blood brain barrier prevents the mineral from reaching the structures that most need it. However, this can be remedied by taking magnesium in a different form: magnesium-l-threonate, which crosses the blood-brain barrier and penetrates the brain tissue.

For more information on the restoration of brain cells. see "Alzheimer's Disease" in this section. Also investigate specialized bodywork and CranioSacral Therapy (see **Chapter 3**) to release pressure inside the brain and realign its structures.

Brain Fungus

See "*Gliocladium* / Brain Fungus" in this section.

Brain Tumor

See under **CANCER**.

Calming, to Produce

2.5, 10, 7.83, 80, 304, 6K

Cerebral Palsy

Impaired movement and sensation due to paralysis of portions of the brain.

146, 522, 660 + 690 + 727, 787, 880, 1K, 40K

Cerebrospinal Conditions

10K, 40K

Colitis

Inflammation of the colon. It usually has an emotional component. Meditation, stress reduction techniques, and psychotherapy can help to help discharge or release anger and other emotions. The majority of "brain" biochemicals are in the gut, so consider taking the mineral lithium orotate (not the drug lithium carbonate as they are very different; see the beginning of this entire section for details). Also see "Colitis / Ulcerative Colitis / Irritable Bowel Syndrome (IBS)" under **GASTROINTESTINAL TRACT, Colon / Large Intestine**.

Concentration and Clarity, to Improve

It's wise to know what pathogen you're dealing with, especially because microbial waste can pass the blood brain barrier and cause mental and emotional symptoms. Any harmful microbe that spews waste into the tissues and bloodstream can contribute to "brain fog." Try the herb *Ginkgo biloba*, which augments blood flow to the brain and body, and increases the body's production of adenosine triphosphate (ATP), the main source of energy for the cells. This will help the brain metabolize glucose and increase its electrical activity.

Check for food allergies, particularly to adulterated dairy, wheat, soy, and corn. Eliminate artificial chemicals, dyes, and preservatives from the diet. Also see **CANDIDA, FUNGI, MOLDS AND YEASTS**, "*Candida albicans*"; the many entries under **PARASITES, PROTOZOA AND WORMS**; and see "Study Mode" in this section.

5.8, 7.83, 20, 35, 10K, 40K

Convulsions

Sudden, involuntary movements of the musculature. Also see "Epilepsy" in this section. Seek medical advice!

660 + 690 + 727, 787, 880, 10K, 40K

With spasticity: 7.69, 8.25, 9.19, 9.2

Dementia

See "Alzheimer's Disease" in this section.

Depression

Depression can be caused by the toxic wastes excreted by pathogens. However, a June 2018 study—"Prevalence of Prescription Medications With Depression as a Potential Adverse Effect Among Adults in the United States"—showed that depression can also be caused by hundreds of drugs that are not antidepressants: over-the-counter antacids, prescription and non-prescription painkillers (including ibuprofen), contraceptives, blood pressure and heart medications, and more!¹² The report coincided with newly released statistics showing that suicides rose by 30% in the past two decades, half of which were from people not known to suffer from depression or mental illness. If

you are taking any drugs, get professional help to find safe substitutes. Also see the beginning of this main category for details on the mineral lithium orotate. Recent research indicates that an Acetyl-L-Carnitine deficiency can cause depression as well; it plays a crucial role in metabolizing fat and producing energy. It's available as a supplement.

People with infectious mononucleosis or Chronic Fatigue (caused by the Epstein-Barr virus) have four times the risk of developing clinical depression, so see **VIRUSES**, "Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)." See, under **PARASITES, PROTOZOA AND WORMS**, "Tapeworm," because depression and psychotic symptoms can develop when a tapeworm invades the brain, leaves cysts (larval sacs), and causes lesions, cerebral swelling, and encephalitis. Also see **PARASITES, PROTOZOA AND WORMS**, "*Toxoplasma gondii* / Toxoplasmosis," as these toxins can contribute to suicidal depression. Also see the numerous *Candida* frequencies under **CANDIDA, FUNGI, MOLDS AND YEASTS**, as the potent toxins released by various strains of *Candida* negatively affect the brain and nervous system. See other entries in this section. Also see **BLOOD SUGAR PROBLEMS** and **GLANDS, Thyroid**, as both of these conditions can also cause severe depression.

General

35, 787, 5K, 9999, 10K, 40K

Anxiety, Trembling and Weakness

30.5, 800

Drug or Toxin related

1.1 + 73, 30.5

Shigella flexneri related

Accounts for just under one-third of the cases of *Shigella* infection in the US, and is linked to depression. Can also lead to a chronic condition called reactive arthritis, symptoms of which include joint pain, painful urination, and eye irritation.

From Dr. Hulda Clark: 394K or 976.63 Hz (for units unable to reach the KHz range) and 19616.10

Down's Syndrome

A condition of stunted growth and limited mental ability corresponding to a chromosomal abnormality. Physical characteristics make all Down Syndrome people look similar: a broad nose, slanted eyes, and flat skull. Nutritionally-oriented biochemists have discovered that Down's babies have metabolic imbalances that lead to deficiencies of some nutrients (such as zinc and selenium), excesses in others, malabsorption of essential fatty acids (EFAs) and other nutrients, dangerously high levels of some toxic metals, and digestive disturbances.

During his lifetime (1903–1992), genetic disease

physician Henry Turkel was well known for the medical instruments he invented, cited in over a thousand scientific publications. He developed what he called the "U-series" treatment: administering extra large amounts of vitamins, minerals and enzymes in which his clients were deficient, tailored to their individual needs. He began treating Down's Syndrome babies and children with the same protocol, often adding medications such as thyroid hormone. The physical anomalies that accompanied the mental limitations—characteristic markers of the Down Syndrome defect—would all lessen or even disappear. Almost without exception, he reported, these people were able to live normal lives; in fact, many graduated college. Dr. Turkel's 1985 book, *Medical Treatment of Down Syndrome and Genetic Diseases*, is still available today. The Japanese government awarded Turkel a medal in 1974. In the United States, the FDA made it illegal for him to ship his supplements across state lines.

See a holistic doctor who's skilled in nutrition. This condition has been known to correct itself in a fair number of cases if it's addressed early enough with very high amounts of the right nutrients, which include probiotics. Also see various entries under **CANDIDA, FUNGI, MOLDS AND YEASTS** and under **GASTROINTESTINAL TRACT**.

20, 5K, 40K

Dyslexia

There are no known frequencies for dyslexia, so see "Attention Deficit Disorder (ADD) / Attention Deficit Hyperactivity Disorder (ADHD)" in this section. Also see Appendix A, Color Therapy, "Irlen," for information about special colored transparent overlays that help correct the brain's visual processing centers while improving reading.

Eating Disorders

This is generally perceived as a discrete disease entity. An increasing number of people, particularly women and girls—an estimated 5% or more, some as young as seven years old—suffer from a poor relationship with food. This manifests in binge-eating followed by vomiting (bulimia), as well as excessive fasting, inappropriate use of laxatives and diuretics, or compulsive exercising as a form of weight control. Sometimes, there may be self-starvation (anorexia). The health impact of bingeing and purging is severe. Loss of minerals can lead to irregular heartbeat. The acid from frequent vomiting can burn the esophagus and corrode the enamel on teeth. Dehydration and gastrointestinal problems are almost guaranteed.

Negative body image is reinforced by our superficial culture. It associates self-worth with a certain appearance, and has a deeply entrenched view of women as objects. Pressure to look like a movie star (an impossible ideal) is so pervasive that now men and boys are developing eating disorders too. In many cases, eating disorders are rooted in emotional and sexual abuse.

In addition to their emotional and social components, eating disorders can relate to faulty metabolism, incomplete absorption and assimilation of nutrients, and chemical poisoning that damages certain areas of the brain. Abnormal neurotransmitter levels will likely be found. The thyroid gland, which regulates metabolism and thus weight loss or gain, may be malfunctioning. The pituitary gland may also be implicated because it regulates the thyroid. Blood sugar disorders (hypoglycemia and diabetes) also relate to metabolic function.

A malfunctioning metabolism, poor nutrient utilization, the inability to efficiently eliminate toxins, and waste accumulation all contribute to the proliferation of pathogens. *Candida*, worms, and parasites are suspect in all cases of eating disorders. They feed on junk foods and sugars that people tend to eat in excess. They cause perpetual hunger because nutrients are being diverted to feed them. And wastes excreted by pathogens accumulate in the body, causing toxicity. Therefore, the existence of microorganisms may support, accompany, and even cause this imbalance. *Candida* and parasites feed on heavy metals, so it's worth checking for mercury, aluminum, cadmium, and other toxic metals.

In *The Diet Cure*, Julia Ross discusses eating disorders in relationship to a starving body, and recommends specific nutrients to help the body and brain heal. Amino acids to balance neurotransmitters are especially important (see Sidebar on page 656, "Underappreciated Amino Acids," and Chapter 1, page 65). A nutritionist versed in brain function can help correct the amino acid deficiencies that prevent the proper production and utilization of neurotransmitters.

For any issue involving a toxified system, sluggish metabolism, or faulty digestion, try a detox diet and sauna therapy. See Chapter 3, **Detoxification**.

See obesity / overweight. Other listings that may relate to your particular situation are **BLOOD SUGAR PROBLEMS**; **CANDIDA, FUNGI, MOLDS AND YEASTS**; **CHEMICAL SENSITIVITY / POISONING**; **GASTROINTESTINAL TRACT**; **GLANDS**, *Thyroid*; and **LIVER AND GALLBLADDER**.

Emotional States: to Stabilize, and to Eliminate Rigidity
15, 644, 764

Encephalitis

Inflammation of brain and spinal cord. Address cause of inflammation. Also see "Leukoencephalitis" in this section.
841

Energy and Vitality, to Improve
40K

Enuresis

See "Bed Wetting / Enuresis" in this section.

Epilepsy

Brain disorder in which its neurons emit more electricity than they should, characterized by convulsions and loss of consciousness. Brain lesions, epileptic seizures, and symptoms similar to Multiple Sclerosis, Parkinson's, and other nerve conditions can be caused by pathogens or by the ingestion or inhalation of toxic metals, petrochemicals, artificial sweeteners, and some pharmaceuticals.

A high fat or ketogenic diet, originally developed at Johns Hopkins and the Mayo Clinic in the 1920s, stops seizures. Most allopathic doctors say they don't know why it works, but we can make an educated guess. Healthy neurons are insulated by fatty sheaths. Without insulation, electrical messages are scrambled. It makes sense that if a high-fat diet eliminates symptoms, a shortage of healthy fats is a primary cause of at least some cases of epilepsy. Also see **CHEMICAL SENSITIVITY / POISONING**, "Mercury, Aluminum, and Other Contaminants"; and "Seizure" and other entries in this section.

From Dr. Marty Monahan: 20, 600, 650, 700, 727, 787, 802

Also try: 21, 125, 210, 625, 633, 660, 690, 880, 1550, 40K (use this last one for as long as you want)

Fear

Wastes from pathogens that seep into the brain induce all kinds of emotional and physiological reactions. Also see various entries under **CANDIDA, FUNGI, MOLDS AND YEASTS** and **PARASITES, PROTOZOA AND WORMS**.

1.1 + 73, 5.8

Gliocladium / Brain Fungus

855 (from Dr. John Garvey), 469, 633

Hallucinations

20, 660 + 690 + 727, 787, 880, 40K

Hangover

See "Alcoholism" in this section.

Headache

See **HEADACHE**. Also see "Migraine" in this section.

Herpes zoster

See "Shingles" in this section.

Hives / Urticaria

Sometimes bumps break out on the skin due to anxiety, nervousness or trauma. See under **SKIN**.

Hypoglycemia

See under **BLOOD SUGAR PROBLEMS**.

Hypothalamus, to Balance and Normalize

15.42, 537, 1351, 1413, 1534

For improved cognitive function, sleep, motor coordination, addiction control, pain reduction, neurological balance, creativity, and to reduce anxiety and depression, try...

Transcranial Direct Current Stimulation

(see Appendices A and C)

Impotence and Frigidity, many types

See “Sexual Function” under **MEN** or **WOMEN**.

Infections, Post-operative (after shunt implants)

See **BACTERIA**, “*Propionibacterium acnes*,” as this microbe has been implicated in post-surgical infections of heart valves and central nervous system shunts.

Insomnia

Can be caused by eating late at night; exercising late in the day or evening; light in the bedroom; heavy metals (which irritate the nervous system); watching TV or using a computer or cell phone just before bedtime; or worry and anxiety. Severe trauma and abuse keep the system in a fight-or-flight, hypervigilant mode.

If you use melatonin, too much can cause nightmares and sleeplessness. Begin with 0.5 mg or less. For details, see Chapter 1, **Sleep and Rest**.

See **SCHUMANN RESONANCES** and **CHEMICAL SENSITIVITY / POISONING**. There may be an infection in the pituitary, pineal or brain; so see entries for relevant pathogens. Also see other listings in this section.

3 + 230, 3.9, 3.59, 3.6, 7.83, 10, 304, 800, 802 + 1550, 880, 1500, 6K, 40K

Intercostal Neuralgia

See “Neuralgia, Intercostal” in this section.

Intelligence and Clarity of Thought, to Improve

See “Concentration and Clarity, to Improve” in this section.

Irritability and Whining

Two of the frequencies are also used for inflammation. It is said that people’s emotions are “inflamed” when they’re in a bad mood.

3.6, 3.9, 6.3

Irritable Bowel Syndrome

See “Colitis” in this section.

Languorous (Non-Spastic) Paralysis

Muscular rigidity accompanying partial paralysis. In some cases, progress might be slow.

8.25, 9.19, 9.2, 20, 72, 95, 125, 444 + 1865, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 880, 10K, 40K

Leukoencephalitis

Progressive inflammation, usually in young children, of the brain’s white matter. Also see “Encephalitis” in this section.

324, 338, 572, 712, 713, 715, 776, 783, 932, 934, 1035, 1079, 1111, 1160, 1244, 1333, 1630

Listeriosis

See “*Listeria monocytogenes* / Listeriosis” under **BACTERIA**.

Manic Depression

See “Bipolar Disorder / Manic Depression” in this section.

Memory, to Improve

Beta waves, which naturally range from about 13–40 Hz, can promote concentration and active thought, but they can also stimulate anxiety. Use frequencies at your own risk!

14.6, 14.7

Meningioma

Slow growing benign tumor of the meninges, the membranes enveloping the brain and spinal cord. Also see “Meningitis” in this section.

446, 535, 537

Meningitis

Inflammation of the membranes of spinal cord or brain. There are many microorganisms that could cause meningitis; only a few are below. Find the pathogen involved and rife specifically for that microorganism.

From Dr. John Garvey: 322, 822, 1044, 1422

Also try: 20, 72, 95, 125, 130, 254, 423, 444 + 1865, 428, 464, 484, 507, 517, 610 + 692 + 980, 660 + 690 + 727, 644, 676, 677, 706.7, 733, 764, 790, 787, 802 + 1550, 832, 864, 878.2, 880.2, 986, 2900

Sweep: 5044–5061; 5355–5458

***Coccidioides immitis* cause**

See **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*Coccidioides immitis* / Valley Fever / Coccidioidomycosis / Coccidiosis.”

ECHO virus cause

461, 514, 600 + 625 + 650, 620, 722, 765, 788, 922

Enterococcus faecium

343, 686

***Meningococcus virus* cause**

720

Meningoencephalitis

Caused by *Cryptococcus neoformans*, a yeast that infects the respiratory tract but can then enter the brain and cause infection. Symptoms include headache, nausea, staggering gait, irritability, confusion, and blurred vision.

588, 636 (both from Dr. Richard Loyd), 367, 428, 444 + 1865, 476, 478, 522, 579, 594, 597, 613, 624, 785, 792, 872, 2121, 5880, 5884

Migraine

Pain at side of the head, often along the 5th cranial nerve, accompanied by disordered vision, nausea, chill, and fatigue. Migraines may be caused by allergies, drugs, chemicals, unsuitable food, a toxified liver, menstrual difficulties, hormonal conditions, worry, or even strenuous exercise.

Often, migraines can be caused by low blood sugar. The brain, although small compared to the rest of the body, utilizes 25% of the body's glucose at any given time. As little as a 5% drop in blood sugar can cause fatigue and adversely affect thinking, mood, and motor coordination. If blood glucose levels decrease, the body compensates by increasing the blood volume so that more glucose is brought to the brain. Blood volume is increased by expanding the blood vessels, thus increasing blood flow. Over time, the bulging blood vessels repeatedly pressing on nerves can cause pain. Another common cause for migraines is liver toxicity; so consider liver support and cleanses. See **LIVER AND GALLBLADDER**, *Liver*.

Avoid caffeine and other drugs, fake foods, and overly fatty foods. Rest in a dark room. Alkaline, mineralized water may help. Check for a probable magnesium deficiency and consider taking the mineral lithium orotate.

Also see **HEADACHE**, "General (unspecified)" and "*Strongyloides stercoralis* / Threadworm" under **PARASITES, PROTOZOA AND WORMS**; and **BLOOD SUGAR PROBLEMS**.

Motor Neuron Disease

See "Amyotrophic Lateral Sclerosis (ALS)" in this section.

Multiple Sclerosis (MS)

Lesions on the spinal cord and the brain that slowly disintegrate the fatty covering from the nerve cells, resulting in various degenerative symptoms such as loss of motor function, weakness, impaired vision, bladder dysfunction, and perceptual difficulties. Some people with this gradually debilitating condition experience partial remission, while others may eventually need a wheelchair.

A trigger is needed to cause MS. Brain lesions, epileptic seizures, and symptoms similar to MS, Parkinson's, and other nervous system conditions can be caused by the ingestion or inhalation of the toxic metals mercury and lead, and the petrochemicals benzene and toluene. These heavy metals and toxic chemicals appear in solvents, cleaners, paints, cosmetics, and vaccines. The artificial sweetener aspartame, common in diet soda and junk food, is a major factor in many MS cases. One common denominator of all these poisons is their ability to cross the blood brain barrier and directly affect the nervous system.

Medical researchers have found evidence of *Chlamydia pneumoniae* in the spinal fluid of 90% of people with MS who were tested; so see "*Chlamydia pneumoniae*" and "*Chlamydia trachomatis*" entries under **BACTERIA**. Other pathogens found in the majority of MS sufferers are *Brucella* and *Mycoplasma*, so see **BACTERIA**, "*Brucella*, all types" and "*Mycoplasma*." Another pathogen implicated in

Unstress the "Stress" Points Above the Eyes: Alleviate Trauma Using Either Your Hands or a Red Wavelength LED

Physiology. Above each eye, about halfway up the forehead, is an acupuncture / acupressure point, lying on a meridian, which correlates to the right and left hemispheres of the brain. When stressed, these points—and the meridians on which they lie—become unbalanced. This imbalance means that some portions of the brain (and the rest of the body) have too little energy, while other areas have too much energy. The imbalance also means that the right and left hemispheres of the brain are no longer communicating well with each other, if at all.

These points can be used to manage, or eliminate entirely, stress, anxiety, and even panic. There are two self-help ways to do this.

Method #1. This method is sometimes used by chiropractors and other bodyworkers. Place the fingers of both hands in a straight line across the forehead, making sure to cover these points, and gently breathe.

Method #2. This method requires a red LED whose wavelength lies somewhere between about 635 nm and 660 nm. Ideally, the LED should be equipped with a setting (often called "pulse") that allows it to flicker on and off rapidly at a rate too fast for the eye to see.

With the eyes closed, move the LED horizontally back and forth across the forehead while thinking of the person, situation, or event that originally caused you stress. If you don't know where the discomfort came from, focus on your unpleasant emotions and the bodily sensations that arise from the emotions.

The flickering ("pulsing") LED rebalances the meridians, integrates the right and left hemispheres of the brain, and relaxes the body—thus lessening or even neutralizing the stress. Beneficial changes from this session usually occur within an hour. Sometimes the initial stress is cleared but then releases a deeper level of stress, much like unpeeling an onion produces deeper layers. If this occurs, repeat the session. You may need to repeat it periodically.

This method is reminiscent of, but unaffiliated with, EMDR (Eye Movement Desensitization and Reprocessing). Developed by Dr. Francine Shapiro of the EMDR Institute, Inc.[™], EMDR was designed to help people quickly process and overcome the negative effects of trauma. Formal EMDR sessions must be administered by a trained professional. However, for those who are psychologically able to work on themselves, these methods can be empowering and healing.

MS is the Epstein-Barr Virus (EBV). More MS sufferers than non-MS people harbor the epsilon toxin, which is produced by the bacterium *Clostridium perfringens* and causes intense abdominal cramps and diarrhea. There are five strains of this bacterium. See some *Clostridium* entries under **BACTERIA**, and go to dnafrequencies.com for others. UK researchers found that Epstein-Barr can mimic symptoms of MS. It hides in the immune cells and releases chemicals that cause inflammation; so see **VIRUSES**, “Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS).”

Dr. Lida Mattman and others found the Lyme spirochete in many people who are mistakenly diagnosed with MS. Dr. Dietrich Klinghardt reported that without exception, everyone he treated who had Multiple Sclerosis (or Amyotrophic Lateral Sclerosis or Parkinson's) tested positive for Lyme disease; so see **BACTERIA**, “*Borrelia*, all types / Borreliosis / Lyme Disease.”

Also see “Fluke” entries under **PARASITES, PROTOZOA AND WORMS**; *Herpes* entries under **VIRUSES**; and **CHEMICAL SENSITIVITY / POISONING**, “Mercury, Aluminum, and Other Contaminants.”

Recovery is possible. An optimistic outlook will help with healing. Sweep the frequencies 4 Hz on either side of the main signal.

20, 80.9, 143, 166, 218, 224, 235, 241.68, 253, 275, 304.6, 317, 421, 430, 464, 470, 524, 620, 624, 660 + 690 + 727, 784, 787, 802 + 1550, 840, 854, 880, 1331, 1875, 1883, 2088.59, 2189, 2213, 2252.8, 2466.9, 2720, 3056.9, 3767, 4992, 5K (for 30 minutes), 23570.5, 40K (for as long as desired)

One woman who completely cured herself of MS set her rife unit to sweep 4 on either side of the main signal, for each of the following frequencies: 20, 80.9, 241.68, 304.6, 660 + 690 + 727, 787, 880, 2088.59, 2252.8, 2357.5, 2466.9, 3056.9, 5K

Twitch

First try: 470

Also try: 143, 275, 430, 464, 524, 620, 624, 784, 840, 854, 2213

Nervousness and agitation, the inability to remain seated

See “Akathisia / Agitation” in this section.

Nerve Pain

968 (for 15 to 20 minutes, twice a day), 2720

Nerves, to Stimulate Healing of

2.0, 657, 10K, 5K, 40K

Nervous System, to Balance, Strengthen and Support

764, 40K

Nervousness

See “Akathisia / Agitation” in this section.

Neuralgia, Brachial

Nerve pain in the arm.

0.5, 3.9, 2720

Neuralgia, General

Severe pain along a nerve. This is considered a “shortened treatment.”

833 (from Dr. Garvey), 3.9, 802 + 1550, 2720, 10K, 40K

Neuralgia, Intercostal

Pain in rib musculature.

20, 125, 444 + 1865, 660 + 690 + 727, 776, 787, 802 + 1550, 880, 2720, 3K, 40K

Neuralgia, Trigeminal

Inflammation of the trigeminal (5th cranial nerve), which regulates chewing and sensation in the face.

3.9, 70.5, 7.83, 27.5 + 220 + 410, 146, 428, 600 + 625 + 650, 660 + 690 + 727, 760, 776, 787, 802 + 1550, 832, 880, 1600, 1800, 2170, 2489, 2720, 40K

Neurosis

Like most psychological labels, the term “neurosis” is unscientific and can reflect the bias of the person who’s diagnosing as much as the person being diagnosed. Aberrant behavior and emotional misery can result from microbial waste products that get into the brain. Use frequencies for your specific infection. It’s amazing how emotions, thinking, and behavior can improve once the body is cleared of pathogens and chemical toxins.

28

Nocardiosis / *Nocardia asteroides*

Transmitted mainly through soil. Symptoms may include lung abscesses, fever and cough lasting several months, heart damage, and brain lesions leading to meningitis.

228, 231, 237, 694, 710, 887, 2890

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

Kilohertz set: 354950 (lowest), 355100 (optimal), and 355350 (highest)

Hertz set: 879.83 (lowest), 880.20 (optimal), and 880.82 (highest)

Also from Clark: 17679.39

Numbness

Lack of sensation in various parts of the body. Also see “Paresthesia” in this section; and various circulatory conditions under **HEART, BLOOD AND CIRCULATION**.

440, 600 + 625 + 650, 660 + 690 + 727, 787, 802 + 1550, 880, 1600, 1800, 2170, 2489, 2720, 10K, 40K

Obesity

See **OBSESITY / OVERWEIGHT**.

Obsessive-Compulsive Disorder (OCD)

Both OCD and Tourette's are linked to two microbes: *Mycoplasma pneumoniae* and *Enterococcus* (aka *Streptococcus*) *faecalis*. In immune-compromised people, *Strep*—mistaken by the body for a more dangerous form—can trigger immune cells to attack the person's own brain tissue.

Friendly flora may be lacking. Niacin (Vitamin B3) increases levels of tryptophan, an amino acid precursor to the neurotransmitter serotonin. There may be deficiencies in Vitamin B6, calcium, potassium, and magnesium. Vitamin C helps restore stressed adrenals.

Frequencies for *Streptococcus faecalis* can be obtained at dnafrequencies.com. Other *Strep* frequencies are in this Directory. See "*Mycoplasma*, many types" under **BACTERIA**. See "Schizophrenia" or "Bipolar Disorder / Manic Depression" in this section. The toxins from Lyme and related bacteria often mimic OCD, so also see **BACTERIA**, "*Borrelia*, all types / Borreliosis / Lyme Disease."

"PANDAS" / Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcus

PANDAS is an acronym for "Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcus." Many psychiatric disorders, including OCD (obsessive-compulsive disorder) and Tourette's syndrome, are linked to two microbes: *Enterococcus* (aka *Streptococcus*) *faecalis* and *Mycoplasma pneumoniae*. In immune-compromised persons, the *Strep* bacterium—mistaken by the body for a more dangerous form—can trigger immune cells to attack one's own brain tissue.

A multi-spectrum probiotic formula can help heal the gut. Frequencies for *Streptococcus faecalis* are available for a very reasonable price at dnafrequencies.com. In the meantime, try other *Strep* frequencies as well as "*Mycoplasma*, many types" and especially "*Mycoplasma pneumoniae*" under **BACTERIA**. Also see "Schizophrenia" and "Bipolar Disorder / Manic Depression" in this section.

Panic Attacks

See under **GLANDS, Adrenals**.

Paralysis in the Face

660 + 690 + 727, 787, 880, 10K, 40K

Paralysis, Non-Spastic / Languorous Paralysis

Muscular rigidity accompanying partial paralysis. In some cases, progress might be slow.

8.25, 9.19, 9.2, 20, 72, 95, 125, 444 + 1865, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 880, 10K, 40K

Paralysis from Stroke

See "Stroke Paralysis / Apoplexy" in this section.

Paresthesia

Numbness and tingling due to pinched nerve. Also see "Subluxation / Spine Distortion" under **BONE AND SKELETON** or **INJURIES**. This is not a substitute for a chiropractic adjustment.

5.5

Parkinson's Disease

Chronic nerve deterioration and death, usually of the neurons that release the neurotransmitter dopamine. Dopamine sends signals responsible for smooth and controlled movements in the muscles. Symptoms include increasing tremor, muscular weakness and rigidity (which can change one's gait), and slowed speech.

The neurofibrillary tangles (toxic protein structures), which are present in Alzheimer's are also present in Parkinson's. These tangles can take decades to develop. Brain lesions, epileptic seizures, and symptoms similar to Multiple Sclerosis, Parkinson's, and other nervous system conditions can be caused by pathogens, inhalation or ingestion of pesticides, toxic metals, petrochemicals, artificial sweeteners, and some pharmaceuticals. People with a history of just one concussion or other head injury have an increased chance of developing Parkinson's.

Two 20-minute sessions daily with 670-nm LEDs covering the head may help. Also see "Transcranial Direct Current Stimulation" on page 909 of Appendix A.

The *Actinomyces* bacterium produces epoxomicin, a proteasome inhibitor that prevents the body from breaking down proteins. This causes symptoms resembling Parkinson's. *Actinomyces* lives in soil and well water; and more people in rural than urban areas develop Parkinson's. For its frequencies, see dnafrequencies.com.

Research by Dr. Robert Vink suggests that inadequate magnesium also increases susceptibility to Parkinson's, as does a deficiency of proper dietary fats. Try the mineral lithium orotate; see "Nutrients for the Brain and Nervous System" at the beginning of this section for details.

Read the dietary and other protocols in the "Alzheimer's Disease" entry. Also see "*Chlamydia pneumoniae*" and "*Nocardia asteroides* / Nocardiosis" under **BACTERIA**; and **CHEMICAL SENSITIVITY / POISONING**, "Mercury, Aluminum, and Other Contaminants." Also see **BACTERIA**, "*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer," as new research shows that many people with Parkinson's are harboring this pathogen and improve when it's eliminated. This supports the belief of some researchers that Parkinson's—as well as a related condition, Alzheimer's—may be contagious, especially if a pathogen is involved.

There is strong evidence that prions might be involved as well. See **PRIONS / AMYLOIDOSIS** for details, including information on how to remove them. Finally, medical doctor Dietrich Klinghardt has reported that without exception, every person in his clinic who had Parkinson's (or Amyotrophic Lateral Sclerosis or Multiple Sclerosis)

tested positive for Lyme disease; so see **BACTERIA**, “*Borrelia*, all types / Borreliosis / Lyme Disease.”

From Michael Tigchelaar (3 minutes each): First try 1440, then 6K, 3176, 4334, 1422, 871, 840, 827, 813, 744, 742, 733, 658, 611, 577, 569, 531, 524, 442, 314, 310, 172, 134

Alternate program: 1.1 + 73, 33 (for 30 minutes), 693, 813, 1131 (for at least 3 minutes)

For tremor (run for 10 minutes each): 5K, 6K

For temporary relief: 130, 169 and (for 10 minutes) 6K

For deterioration : 813, (10 minutes) 6K, 40K (6+ hours)

Polio / Poliomyelitis

Inflammation of the grey matter of the spinal cord, often beginning with gastrointestinal disturbances and fever, leading to atrophy of the muscles, and occasionally paralysis. Although this condition is sometimes called “Infantile Paralysis,” it also affects adults. Some recent studies indicate that the Epstein-Barr virus, which is implicated in chronic fatigue and mononucleosis, is one of seventy-two pathogens that mutated from the polio virus administered in vaccines. Also see “Meningitis” and other entries in this section; and entries under **VIRUSES**.

Main frequency: 1500

From Dr. John Garvey: 742, 1580, 2632

Also try: 135, 283, 428, 660 + 690 + 727, 776, 787, 802 + 1550, 807, 880, 10K, 40K

Psychosomatic Pain

When nothing obviously physical is discernible as the cause of a physical ailment, many laypersons (and doctors) think it’s psychosomatic—meaning “mind-induced,” and therefore invalid or not real. But the word simply means the interaction of psyche and soma, mind and body. Most (if not all) medical conditions are psychosomatic, having both physical and mental/emotional components. Psychosomatic pain can be due to energetic meridian blocks, nutritional deficiencies, microbial infection, or chemical toxicity. These can even be acquired from past generations. See **PAIN**.

Raynaud’s Disease

Nervous system disorder leading to disturbance of the circulation in the extremities, which can lead to congestion and swelling, and if severe enough, gangrene. 20, 660 + 690 + 727, 40K

Reflex Sympathetic Dystrophy (RSD)

Involves not only the muscles and nerves, but also the skin, blood vessels, and bones. It features severe chronic pain, inflammation, muscle or blood vessel spasms, and insomnia, depression, and anxiety. This condition often follows a fall or sprain, a break in a bone, an injury such as a knife wound, or a heart condition, infection, surgery,

spinal disorder, or other major trauma. The person may experience symptoms far from the site of the original trauma. Women in their 30s and 40s most commonly experience this condition. Even light clothing or a breeze can increase pain levels; and subjects are often sensitive to loud noises or vibrations. Other symptoms can include an inability to balance, short-term memory conditions, visual disturbances, jerky movements, muscle atrophy, and falling.

Make sure that the systemic pH and electrolytes are balanced. Consult a holistic health care provider. This condition is too new for Rife researchers to have computed frequencies for it. So see more entries in this section, as well as under **MUSCLES** and **CHEMICAL SENSITIVITY / POISONING**. Also see **GLANDS**, *Adrenals*, in case there’s adrenal exhaustion.

Relaxation, to Produce

See “Calming, to Produce” in this section.

Schizophrenia

Frank Strick’s research shows that the children of pregnant women with *Herpes* are more likely to be diagnosed later with schizophrenia and other psychological conditions than children of non-afflicted mothers.

The parasite *Toxoplasma gondii* has also been strongly linked to schizophrenia and bipolar disorder. In the latter part of the 1800’s, when house cat ownership became popular, these disorders, which had been almost non-existent, became fairly common. This parasite is carried by house cats and expelled through their feces. The house cats then jump from the contaminated litter box and walk over furniture and food preparation surfaces. In humans, this parasite causes brain lesions, changes in personality, and symptoms of psychosis, including auditory hallucinations and delusions.

See **PARASITES, PROTOZOA AND WORMS**, “*Toxoplasma gondii* / Toxoplasmosis.” Also see “*Borrelia*, all types / Borreliosis / Lyme Disease” and the “*Strep*” entries under **BACTERIA**; and “Borna Virus / Borna Disease Virus (BDV),” “*Herpes Virus Type 5* (Human *Herpes Type 5*) / Cytomegalovirus (CMV) / Salivary Gland Virus,” other *Herpes* entries, and “Retrovirus, variants” under **VIRUSES**, as recent studies show that these microbes have a strong link to mental illness. In children especially, abrupt onset of Obsessive-Compulsive Disorder (OCD) has been linked to *Strep* infection. Also supplement with N-Acetyl-Cysteine. Doses of 600 mg to 1200 mg or even 2400 mg per day have proven successful in normalizing certain neurotransmitter receptor sites. Check for deficiencies of the minerals lithium orotate and magnesium; more information is at the beginning of this section.

Sciatica

Sciatic nerve inflammation, felt at the back of the thigh running down the inside of the leg. Researchers at the Royal Orthopedic Hospital in Birmingham, England,

found pathogens near the nerve. They believe that microscopic tears in the discs of the spine allow pathogens to enter. Most frequencies below are general. Get a diagnosis for a specific pathogen.

10, 660 + 690 + 727, 787, 802 + 1550, 880, 40K

Sclerosis, Lateral

See “Amyotrophic Lateral Sclerosis (ALS)” in this section.

Sexual Problems

Many people may be unable to function sexually in ways that satisfy them. Although there’s often a psychological component to sexual problems, using Rife Therapy is still worth trying because an infection in the genitals or internal reproductive organs is almost guaranteed to interfere with sexual function and pleasure. Sometimes, using frequencies for syphilis makes a huge difference. There are many possibilities, so see any applicable entry under **MEN** or **WOMEN**.

Seizure

Sudden attack of painful, convulsive palpitations, with a decrease or complete loss of consciousness. Also see “Epilepsy” in this section.

226, 329, 953

Shingles

Caused by one strain of the *Herpes* virus, this condition features inflamed nerves along the skin. See **VIRUSES**, **Herpes, all types**, “*Herpes Virus Type 3 / Herpes zoster / Chicken Pox / Varicella / Shingles*.”

Spastic Ataxia

Movement difficulty, lack of muscle coordination accompanied by spastic or convulsive movements. Results might be slow if nerve damage exists, but even brain cells can regenerate, so keep trying. Also see other entries in this section.

7.69, 7.7, 8.25, 9.19, 9.2, 20, 72, 95, 125, 444 + 1865, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 880, 1500, 1600, 1800, 2170, 2720, 40K

Spastic Paralysis

Convulsive, muscular rigidity accompanying partial paralysis. In some cases, progress might be slow.

7.69, 7.7, 20, 72, 95, 125, 444 + 1865, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 880, 10K, 40K

Spastic Paresis

Partial, convulsive paralysis.

9.4, 30.87, 48, 600 + 625 + 650

Stammering

Psychotherapy and/or speech therapy may also help.

7.83, 20, 6K, 10K, 40K

Stroke

A hemorrhage (abnormal discharge of blood due to a burst blood vessel) into the brain or spinal cord. Symptoms may include speech disturbances, slow pulse, labored breathing, incontinence, unconsciousness, and even death. Go to the hospital immediately; don’t rely on frequencies! Immediately 3 + 230; then use the frequencies below.

Stroke Paralysis / Apoplexy

3 + 230, 6.3 + 148, 20, 40, 72, 95, 125, 146, 152, 293, 330, 333 + 523 + 768 + 786, 428, 442, 444 + 1865, 522, 555, 590, 600 + 625 + 650, 622, 660 + 690 + 727, 751, 776, 787, 797, 800, 832, 880, 1146, 1600, 1800, 2170, 2720, 8176, 10K, 40K

Study Mode, for Focusing and Comprehension

Frequencies are from Jimmie Holman. Designed to work on Pulsed Technologies equipment, they might not be as effective when used with other machines.

In this order: 31040, 58752, 59232, 39488, 46848, 46784, 33792, 37376, 33408, 40K, 48128, 34048, 43520 (for as long as desired)

Subluxation / Spine Distortion

See under **BONE AND SKELETON** or **INJURIES**.

Suicidal Tendencies

Mold and mold toxins may be involved. See **CANDIDA**, **FUNGI**, **MOLDS AND YEASTS**, and Staph, Cryptococcus and other infectious agents under **BACTERIA**. Many popular antidepressant drugs have caused people to take their own lives and harm others (see Chapter 1, page 52). In *The Mood Cure*, Julia Ross advises what nutrients to use for the brain to balance neurotransmitters and eliminate harmful emotional states. Also see “Depression” in this section.

Thalamus, to Stimulate

The thalamus consists of two bulb-shaped regions, each slightly more than one centimeter (about four-tenths of an inch), in the center of the brain beneath the cerebral hemisphere. These structures receive sensory, auditory, visual and other nerve impulses, they modulate sensory signals to and from the cerebral cortex, and they help to regulate arousal, one’s level of awareness, and activity.

20

Thyroid Gland Conditions

The thyroid is an extremely important gland. Not only does it regulate the nervous system, growth, development and metabolism, but a malfunctioning thyroid is a major cause of depression. See **GLANDS**, *Thyroid*.

TMJ

See “Teeth Grinding / TMJ Problems / Jaw Pain” under **DENTAL**, *Teeth*.

Tourette's Syndrome

Tourette's and obsessive-compulsive disorder have been linked to *Enterococcus* (aka *Streptococcus*) *faecalis* and *Mycoplasma pneumoniae*. In immune-compromised persons, *Strep*—mistaken by the body for a more dangerous form—can trigger immune cells to attack one's own brain tissue.

A good probiotic formula to heal the gut is critical to becoming well. Frequencies for *Streptococcus faecalis* are at dna-frequencies.com. Try other *Strep* frequencies; **BACTERIA**, "*Mycoplasma*, many types"; and "Schizophrenia" or "Bipolar Disorder / Manic Depression" in this section.

Trauma

Of physical, emotional, or mental origin. Also use a 635-nanometer or 660-nanometer LED; see Sidebar on page 661.

3.9, 15, 96, 95, 190, 192, 300, 465, 660 + 690 + 727, 760, 787, 880, 1565, 3K

Trigeminal Neuralgia

See "Neuralgia, Trigeminal" in this section.

Tuberculosis

This highly infectious airborne disease is popularly known for affecting the lungs. However, swelling and tumor-like welts of tissue may appear not only in the lungs, but also in the meninges (the membrane around the spinal cord) and the intestines. Other symptoms include fever, cough, and difficulty breathing. The list below is abbreviated. There are many frequencies for both the disease and its resulting so-called secondary infections, so also see **TUBERCULOSIS**.

First try: 369K (for the rod form, possibly used on Royal Rife's #4 machine)

Then try: 21508.01, 2127.5, 1070.82, 660 + 690 + 727

And then try: 20, 221, 333 + 523 + 768 + 786, 465, 532, 590, 776, 787, 799, 800, 801, 802 + 1550, 803, 804, 1132, 1500, 1600, 1644, 2008, 2313, 3353, 6516

Ulcer of the Stomach and/or Duodenum

Helicobacter pylori is found in ulcers (and stomach cancer). Although pathogen-related, ulcer is listed here due to its emotional component. Suppression of anger and other emotions can inhibit secretion of gastric juices and thus allow pathogens to proliferate. Counseling is suggested to address emotional awareness and expression. For frequencies, see **BACTERIA**, "*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer."

Wernicke-Korsakoff Syndrome

Two syndromes combined. Wernicke's encephalopathy is neurological impairment whose symptoms include vision malfunction, memory loss, and ataxia (a lack of muscle coordination, resulting in abnormal gait). Korsakoff's syndrome features amnesia, invented memories, blackouts, and apathy. If not treated, it can lead to permanent brain injury and even death.

There are no known frequencies for this unusual combination condition. It often occurs with alcoholism. Some doctors believe that it is largely due to a deficiency in Vitamin B1 (thiamine), which is critical to the proper function of the nervous system and heart.

Whining and Irritability

Note that two of these frequencies are also used for inflammation. When someone is in a bad mood, it is said that their emotions are inflamed.

3.6, 3.9, 6.3

End of Brain and Nervous System, Mind and Emotions section.

BRAIN FUNGUS

See "*Gliocladium* / Brain Fungus" under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

BRAIN PARASITE

See "*Naegleria fowleri* / Brain Parasite" under **PARASITES, PROTOZOA AND WORMS**.

BRAIN TUMOR

See under **CANCER**.

BRANHAMELLA CATARRHALIS

See under **BACTERIA**.

BREKKBONE FEVER

See "Dengue Virus, Types 1, 2 and 3 / Dengue Fever / Breakbone Fever" under **VIRUSES**.

BREAST CANCER

See under **CANCER**.

BREAST, FIBROID CYSTS AND FIBROADENOMA

See "Fibroadenoma of Breast" and "Fibroid Cysts in Breast" under **TUMORS, BENIGN** or **WOMEN**.

BREAST INFLAMMATION

See under **WOMEN, Breasts**.

BREATH, BAD

See "Halitosis / Bad Breath" under **DENTAL, Mouth and Gums**.

BRIGHT'S DISEASE

Generic term for acute and chronic disease of the kidneys, which can involve many types of dysfunction. See various entries under **URINARY TRACT, Kidneys**.

BRONCHIAL ASTHMA

See "Asthma / Bronchial Asthma" under **RESPIRATORY TRACT, Lungs**.

BRONCHIAL CANCER

See "Lung Cancer" under **CANCER**.

BRONCHIAL PNEUMONIA, BRONCHIECTASIS, BRONCHITIS, AND BRONCHOPNEUMONIA BORINUM

See the “Bronchiectasis,” “Bronchitis,” and “Pneumonia / Bronchial Pneumonia” entries under **RESPIRATORY TRACT, Lungs**.

BROWN RECLUSE SPIDER BITE

See under **INSECT BITES**.

BRUCELLA / BRUCELLIASIS, ALL TYPES

See under **BACTERIA**.

BRUISE

See under **INJURIES**.

BRUXISM

See “Teeth Grinding / TMJ Problems / Jaw Pain” under **DENTAL, Teeth**.

BUBONIC PLAGUE

See “*Yersinia (Pasteurella) pestis* / *Pasteurella* / Bubonic Plague / Black Death” under **BACTERIA**.

BUNION

See under **ARTHRITIS**.

BURNS, MOST TYPES, INCLUDING FROM RADIATION

190, 200, 465, 660 + 690 + 727, 787, 880, 10K

BURSITIS

See under **ARTHRITIS** or **INJURIES**.

BX VIRUS

See under **CANCER**.

BY VIRUS

See under **CANCER**.

—C—

CALCIUM METABOLISM AND UTILIZATION, TO IMPROVE

Parathyroid disturbance can cause either an excess or a deficiency of calcium.

First try: 9.6, 10K

Then try: 326, 328, 4760.5, 673.1, 771

CALMING, TO PRODUCE

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

CAMPYLOBACTER

See under **BACTERIA**.

Don't Forget to Use Organ Support Frequencies

Royal Rife publicly stated that his equipment devitalized and destroyed the pathogens involved in cancer and various infectious diseases. Because Rife was promoting his technology to doctors, he had to use the prevailing medical model of his time. The model states that the cause of disease is either a bacterium, virus or parasite. We simply need to identify the offending pathogen, eliminate it, and then the person will be cured.

Today, however—thanks to our increasing understanding of how electromedical modalities work, plus the empirical experiences that so many rifiers have reported—we know that Rife's technology did much more than he or his colleagues said it did. Some of the frequencies appear to restore the cellular function of the host.

Scientists know that all living things emit an electrical charge, which indicates the vitality of the tissue. Healthy tissue emits charge within a certain range; inflamed tissue emits excess charge; and depleted, anaerobic, diseased tissue (including and especially cancer) emits too weak a charge. Pathogens are attracted to—and more easily attack—tissue that is undercharged; and when they do so, they lower the charge and vitality of the tissue even further. Considering Rife's genius and insight, it's reasonable to assume that he also knew about (or suspected) the regenerative effects of his Rife Ray.

There is an entire category of frequencies that, in helping each cell function more optimally, support immune function and restore vitality to organs, glands, and other tissues. So, when you give yourself a rife session, besides making sure that your lymph, kidneys and liver can handle the die-off from the pathogens, make time to use the frequencies under **REGENERATION AND HEALING**. Keep in mind that many of the numbers are experimental. However, the one frequency you can rely on is 40,000 (40K) Hz.

Consider running organ support frequencies for several days or even one week before using a program to disable pathogens. While you are targeting the pathogens, continue with the organ support. However, if you have a life-threatening illness such as cancer, begin the pathogen-killing programs immediately while still running organ support with each session. It may help you feel better.

If you have a serious illness, consult a practitioner familiar with Rife Therapy and detox protocols.

**Run 40K with each session
for as long as you want.
40K revitalizes the tissues.**

The Medical Profession Publicly Admits that Cancer Drugs Don't Work

In a 2004 issue of *Clinical Oncology*,¹³ the authors reported that the average contribution of cytotoxic chemo "therapy" to 5-year survival in adults was only an estimated 2.3% in Australia and 2.1% in the US. They urged doctors to reconsider the need for it, due to its high cost and negative impact on quality of life. The odds remain similar today.

Location of Cancer	% Successes, Australia	% Successes, US
Bladder, Kidney, Pancreas, Prostate, and Uterus	0.0	0.0
Stomach	0.7	0.7
Colon	1.8	1.0
Breast	1.5	1.4
Lung	1.5	2.0
Brain	4.9	3.7
Esophagus	4.8	4.9
Ovary	8.7	8.9
Non-Hodgkin's lymphoma	10.5	10.5
Cervix	12.0	12.0
Lymphatic system (Hodgkin's disease)	35.8	40.3
Testes	41.8	37.7



A 2014 *Journal of the American Medical Association* study showed that 72 cancer therapies approved by the FDA between 2002 and 2014 improved overall survival (OS) by only 2.1 more months than older drugs.¹⁴ A 2016 study, analyzing 62 anticancer drugs approved in the US and Europe between 2003 and 2013, found that only 23 drugs increased OS by only 3 months, 6 drugs increased OS by fewer than 3 months, 16 had no effect, and the OS rate of 8 could not be determined.¹⁵ At least 15 research studies (one from 1995) show that Tamoxifen, used for breast cancer, increases the risk of malignancies elsewhere.¹⁶ MRI scans show less activity in the brains of people who have received chemo, indicating clinical as well as a subjective experience of cognitive decline due to brain damage.



The Simoncini Baking Soda Treatment for Cancer

Some data shows that at least 79% of cancer subjects harbor various strains of *Candida* (mostly *Candida albicans*) in cancer tissue. Although Royal Rife and some modern researchers have found other organisms more directly involved in cancer, the appearance of *Candida* in the majority of cancer sufferers points to the fungus's function of scavenging diseased tissue. Eliminating the fungus would, at the very least, lessen the burden on the body.

Candida often attacks connective tissue, which is networked everywhere in the body and lacks the biochemical and structural means to prevent fungal invasion. *Candida* can survive almost any environment by altering its genetic structure. Thus, the almost unlimited locations of tumors, rather than being isolated diseases, indicates the adaptability of the fungus, depending on the terrain on which it feeds (pH, nutrients and wastes) and its container (where in the body it lives). *Candida* is so aggressive that it can rapidly recover from exposure to toxic fungicides—including chemo—but these poisons compromise the host's immunity, allowing the fungus to further damage the weakened system. According to former oncologist Tullio Simoncini, these factors all contribute to chemo's abysmal failure rate.

To eliminate cancer, Simoncini uses a 5% or higher sodium bicarbonate (baking soda) solution. Diffusing easily in the tissues, its alkaline environment is inhospitable to *Candida* and impedes the fungus's ability to reproduce. Because the bicarbonate must directly contact the tumor, it's usually not ingested. Instead, it must be continually administered in concentrated doses by a doctor who inserts a catheter into the arteries leading to the affected area. Simoncini reports that on the third or fourth day tumors start to shrink, and on the fourth or fifth day they collapse.

Conventionally trained physicians don't accept this treatment. Accounts from the holistic community are mixed.

For more information, see Simoncini's website, cancerisafungus.com.

CANCER

A complex condition, carried by the blood. Everyone harbors cancer cells, but the body routinely eliminates them unless one has been exposed to dangerously high levels of chemicals (including drugs), electrosmog, stress hormones over long periods, radiation, or other toxins. Early stages of cancer manifest as injuries that don't heal, unexplained persistent bleeding, and sudden changes in moles and other growths. Symptoms of full-blown cancer are larger masses of abnormal cells whose genetic programming has deviated from their usual blueprint. A tumor is the body's way of encapsulating diseased tissue to prevent it from spreading. Put another way, tumors are storage containers for systemic waste, which can range from abnormal protein products of inefficient metabolism to environmental toxins (pesticides, heavy metals, etc.).

Some people have a biopsy. Tissue is removed, and a doctor examines it for abnormalities so a cancer diagnosis can be confirmed or rejected. A biopsy can cause cancer to spread because once the protective tissue surrounding a tumor is pierced, cancer cells are released into the bloodstream. Also, if the cancer virus is attacked, it send shoots elsewhere so it can propagate itself. If the cancer spreads locally, it's called an "invasion." Spreading to a distance, it's called "metastasizing."

Biochemist and Nobel Prize winner Otto Warburg emphasized that cancer cells differ significantly from normal ones. Their cellular membrane potential is much lower, which is why electromedical devices that increase cell voltage are so successful at treating it. Cancer cell respiration is *anaerobic* (without oxygen) instead of *aerobic* (with oxygen). Unlike normal cells, cancer cells lack the enzyme catalase, which protects cells from being oxidized by ozone and hydrogen peroxide. This is why ozone therapy works so well (see Chapter 3, **Oxygen Therapies**). Saturating cancerous tissue with ozone neutralizes toxic materials, creates a climate unfavorable to abnormal cells, and strengthens healthy cells and immune function. Warburg noted that cancer cells metabolize about eight times faster than normal cells, but much less efficiently (which is why people with cancer become tired). Cancer cells cannot metabolize in the presence of oxygen, so they must ferment glucose. This is why a no-sugar diet is so important. It also helps explain why people with high blood sugar levels and/or insulin resistance are at a higher risk of cancer than people with normal blood sugar levels and normal insulin response. The intense need of cancer cells for sugar accounts for the success of a therapy in which coated drugs, specifically targeted to kill cancer cells, release their poisonous content only in the presence of sugar.

The presence or absence of light, and type of light, also plays a role. Scientists at the Northern California Cancer Center and other institutions found that exposure to natural sunlight for just 15 minutes a day significantly decreases the risk of prostate, breast, colon, and other cancers. In contrast, research from the University of Haifa in Israel in 2016 showed that even a moderate exposure to artificial light at night can raise the risk of breast and other cancers—partly

due to an increase in electrosmog, and partly because light prevents the pineal gland from producing melatonin, which has immune-enhancing properties.

There are many anti-cancer substances. Just a few are:

- ◆ *Vitamin B17* (amygdalin) is plentiful in bitter almonds and in apricot and peach kernels. (The drug Laetrile® is a synthesized version of natural B17.) In adequate amounts, amygdalin works selectively on cancer cells. The cancer cells metabolize the sugar in the kernels, releasing the phytochemical nitriloside inside the sugars. In response, the cancer cells discharge an enzyme, beta-glucosidase, which combines with the nitriloside to create hydrogen cyanide and benzaldehyde—but only locally, at the cancer site. These substances don't harm normal tissue in the amounts ingested, but they do kill cancer cells.
- ◆ *Inositol hexaphosphate* (IP6) is a complex sugar molecule in grains and legumes. Concentrated, it's a natural antioxidant that enhances the function and number of immune cells. It also regulates cellular communication, proliferation and differentiation, which makes it ideal as a tumor destroyer. This patented extract is safe even in large amounts. Over a decade ago, an article in *Nutrition and Cancer*, "Protection against cancer by dietary IP6 and inositol," described in detail the ability of IP6 to prevent cancer cells from spreading, inhibit their ability to produce their own blood supply, and to correct their malfunctioning DNA messages.¹⁷
- ◆ *Vitamin D3* improves immune response and inhibits the growth of cancer cells and tumors (among other functions).
- ◆ *Vitamin C* in high doses causes cancer cells to self-destruct.
- ◆ *Zinc* prevents cancer cells from growing in many areas.
- ◆ *Quercetin*, a bioflavonoid, escorts zinc into the cells.
- ◆ *Black cumin* (*Nigella sativa*) oil, an Indian spice, used in large amounts is anti-tumor. Almost 500 published studies show that it has eliminated cancerous tissues of the brain, breast, colon, pancreas (80% effective), and prostate. It rebuilds immune cells. Amount: 3 tablespoons a day, taken with food or freshly made vegetable juice. The first tablespoon is taken a half hour before breakfast, the second in the afternoon, and the third at night.
- ◆ *Turmeric root*, an Indian spice, inhibits tumor growth, prevents normal cells from becoming cancerous, helps the body destroy cancer, prevents cancer cells from forming a blood supply, and decreases inflammation. Ginger root (botanically related) has similar, if muted effects.
- ◆ *Hemp* and (more so) *Marijuana* compounds—if extracted properly, and *not* smoked—have anti-cancer properties. (See Chapter 3 for more details).
- ◆ *Iodine*, a mineral in which most people are deficient, is a potent germicide. It's taken internally and also painted, in liquid form, onto the skin at the tumor sites.

Essiac® Herbal Formula for Cancer and Other Illnesses

A Brief History of Essiac®

In the 1920s, Canadian nurse Rene Caisse noticed some scar tissue on the breast of an elderly woman who'd once had cancer. Thirty years earlier, the woman had avoided surgery by treating herself with an herbal formula learned from an Indian medicine man (thought to be from the Ojibwa tribe). After being given the formula, Caisse refined it, testing numerous combinations on mice and humans. She eventually decided on four herbs, called the formula "Essiac®" (her name spelled backwards), and offered it to thousands of people with cancer free of charge before the Canadian government threatened her with arrest. Most of Caisse's extensive lab notes were found and burned, and the formula was suppressed until recently. Some modern holistic physicians speak favorably of the anti-cancer properties in Essiac tea®; and Dr. Frederick Banting (who discovered insulin) surmised that Essiac® helps regulate pancreatic function. People take Essiac® not only for its anti-cancer effects, but also for its ability to normalize blood sugar levels, regulate immune function, and detoxify the liver and elimination organs. Essiac® is used successfully all over the world.

About the Herbs (make sure you use herbs that are not irradiated or fumigated)

Burdock Root (*Arctium lappa*): Purifies the blood. Helps neutralize and eliminate poisons, including radiation, from the body. Supports the bladder, kidneys, and liver. Has anti-tumor properties.

Sheep Sorrel (*Rumex acetosella*): Reverses the growth of cancer tumors. Has significant anti-leukemia properties. Protects against free radical damage. Stops hemorrhages. Diuretic. *Caution:* Make sure you are getting genuine sheep sorrel, and not yellow dock or garden sorrel or French sorrel (which are sometimes substituted for the desired herb).

Slippery Elm (*Ulmus rubra*): Soothes mucous membranes. Reduces inflammation in digestive, urinary, and respiratory tracts. Has anti-cancer properties.

Turkey Rhubarb Root (*Rheum palmatum*): Anti-tumor. Diuretic. Laxative. Anti-inflammatory. Antibacterial.

How to Prepare a Homemade Essiac-like Formula

6½ cups burdock root, cut
1 pound sheep sorrel herb, powdered
4 ounces slippery elm bark, powdered
1 ounce turkey rhubarb root, powdered

- ◆ Mix the dry herbs thoroughly. Store in glass in a dry, dark place until ready to prepare.
- ◆ The best pot to use is glass or enamel, then stainless steel, but never aluminum. Use ½ cup of herb mixture to one gallon of water. You may add 2 or 3 cups of water to replace what is lost through evaporation during boiling.
- ◆ Boil hard for 10 minutes, with the pot covered. Then turn off the heat. Let the tea steep for about 12 hours.
- ◆ Again heat the liquid until it's steaming hot.
- ◆ Let the mixture settle a few minutes, and then strain into clean bottles. When you strain the tea, do not use cheese cloth or a sieve with very fine mesh—otherwise, they may filter out the viscous and gelatinous slippery elm. The herbal residue that settles into the bottom of the jar can be used for poultices, eaten, or given to animals.
- ◆ Refrigerate the tea as soon as possible. Discard it if mold appears on the surface or if the tea does not taste right.

Amounts

- ◆ If you are taking this Essiac-like formula to treat an illness or eliminate toxins, take 2 ounces (¼ cup) three to four times a day. Drink plenty of extra water to flush out toxins from your system. Do not eat or drink anything except water one hour before to one hour after taking the formula.
- ◆ A maintenance dose is typically 2 ounces (¼ cup) once or twice a day, diluted with about ½ cup hot water. Drink plenty of extra water to flush out toxins from your system. Do not eat or drink anything except water one hour before to one hour after taking the formula.

Important

Do not change this formula. Its healing properties depend on the synergistic combination of ingredients. This drink works best when prepared as above, through boiling (which extracts all the nutrients and volatile oils from the herbs). This formula *may* work if made into a tincture (steeping the herbs in alcohol for several weeks). But it *won't* work if the herbs are taken in capsules. This formula has a reputation of complete safety and effectiveness. Doctors experienced with the formula report no ill effects whatsoever from Essiac®, even with high levels of oxalic acid from the sheep sorrel.

- ◆ *Selenium* is also severely lacking in people with cancer (especially thyroid cancer). This mineral inhibits tumor growth by binding antioxidants to DNA that needs repair.
- ◆ *Pancreatic enzymes*, taken on an empty stomach in very large amounts, were first used by William Donald Kelley, DDS (1925–2005). Kelley and his successors eliminated cancers (including of the liver and pancreas) in over 33,000 people. Studies begun in the 1940s showed that many of the over 30 enzymes produced by the pancreas circulate in the bloodstream, dissolving proteins in waste and on the outside of cancer cells. (The enzymes also help repair normal cells.) Kelley reported a 93% cure rate for *newly diagnosed* subjects if they did not receive radiation, chemo, or surgery. He prescribed fresh vegetable juices, coffee enemas (below), and the Budwig protocol (below).
- ◆ *Vegetable juice*. Fresh, living, raw juice (carrot, celery, cucumber, and other veggies) made each day are vital. Carrots, though high in sugar, contain falcarinol, an antioxidant with proven anticancer properties.
- ◆ *Coffee enemas*. Self-administered, they are designed to stimulate liver detox. See Chapter 3, pages 461–464.
- ◆ *The Budwig protocol* is named after German biochemist and six-time Nobel Prize nominee Johanna Budwig (1908–2003), who discovered that seriously ill cancer subjects are deficient in phosphatides and lipoproteins. When these nutrients are ingested 3–4 times daily for three months, tumors gradually recede and energy returns. Other ailments (including liver dysfunction and diabetes) are also healed. To obtain these ingredients, mix 1 tablespoon of flax oil in 2–4 tablespoons of low fat cottage cheese. (The yellow from the flax oil should completely disappear into the white of the cottage cheese.) When eaten together, the life-giving properties of each is released. Daily, people typically take one batch per 50 pounds of body weight, but no more than four batches. Flax oil must be fresh when bought. It turns rancid quickly, but can be safely stored in the freezer without becoming frozen itself. Budwig emphasized not to make substitutions, even for the dairy intolerant.
- ◆ *Diet* consists solely of unprocessed, whole, organic foods. Not all cancer subjects should be vegetarian. William Kelley found that some people require animal protein. Based on a sophisticated, very accurate system of metabolic typing, he did not advocate a “one size fits all” diet but advised different foods for different people.
- ◆ *Heat* disables cancer cells, which are much more sensitive to high temperatures than normal healthy cells. Sauna therapy weakens cancerous tissue with higher temperatures and also induces sweating, which eliminates the cellular and chemical debris that contributes to or causes systemic toxicity. Sauna therapy’s effectiveness is heightened by ozone (see Chapter 3). Mistletoe, when injected at a tumor site, sensitizes the tumor to higher

temperatures that kill the cancer without harming normal tissue. The high iron content of many types of cancers has also inspired the use of magnetism, which generates heat.

- ◆ *Electromedicine* (see Appendices A and C.) Rife Therapy devitalizes pathogens. BEMER® increases circulation in normal tissue. Magnetex® pulls debris from tissues. The VitaSet Generator protects against electropollution.

Cancer subjects often harbor high levels of other bacteria, fungi, and viruses. One microscopist has found *E. coli* infections in cancer subjects and advises rifting for it in every session. In 2002, University of Sheffield scientist Milton Wainwright discovered that a strain of *Bacillus licheniformis* resembling a fungus could actually induce cancer. Ronald Gdanski points out that up to 96% of cancerous masses grow in membranous and connective tissue, and mostly in open vessel or duct areas that have a low resistance to fungi: the bile duct, bladder, breast, colon, lymph nodes, pancreas, and prostate. After reviewing the medical literature on chemo, he stated that all chemo drugs are potent antifungal agents. This supports other observations that people with cancer are riddled with *Candida albicans* and other fungal forms (even if the fungus doesn’t cause the cancer). This data reinforces the importance of balancing the pH of the tissues and blood: if there’s nothing to scavenge, fungus won’t appear. Clean the terrain, and eliminate the pathogens’ food supply. Notably, *Candida* feeds on heavy metals. Research from doctors Walter Blumer and Elmer Cranton shows a 90% reduction in cancer mortality after EDTA chelation therapy to remove metals.

Dr. Hulda Clark reported finding the *Fasciolopsis buski* parasite in a majority of her clients, and stated that when the parasite was eliminated, the cancer did not progress. Due to the high prevalence of parasites in people with cancer, Rife scholars often advise running common parasite frequencies, including intestinal flukes, along with the cancer frequencies.

Recently, *Herpes* viruses have been discovered in cancerous tissue (independent of the so-called cancer virus). However, correlation doesn’t mean causation. When cancer cells are present and dividing wildly, the body may simply be more prone to certain types of infection. The following pages note which *Herpes* viruses have been found with which specific cancers, but be aware that *Herpes* viruses are known to spread; so they may exist in more than one type (location) of cancer. On a related note, some doctors have started administering antiviral drugs for the cytomegalovirus (CMV), whose proteins are found in several types of human cancers but not in the surrounding normal tissues. In several promising studies, people with malignant brain tumors who take antiviral drugs survive for a couple of years longer than those who receive surgery without chemo or antiviral drugs.

Cancer is a systemic imbalance of malfunctioning tissue, and the corrections required are unique for each individual.

books for treating cancer holistically:
HealingCancerNaturally.com

Found: Royal Rife's Frequency For Cancer; and How To Use It

In the 1930s, Royal Rife discovered two cancer viruses. He called them the *BX* (*Bacillus X*) virus and the *BY* (*Bacillus Y*) virus. For a long time modern rifers believed that the *BX* was 11,780,000 Hz and the *BY* was 11,430,000 Hz. While these frequencies did yield success, the results weren't as good as researchers hoped they would be—especially because the success rates did not compare to what Rife himself had achieved. Moreover, while the lab notes for the *BX* virus were found, the notes for the *BY* virus were not. Someone selling rife machines had posted the frequency for the *BY* virus on the Internet, but it wasn't clear where that number had originated.

To make matters more difficult, it turns out that notations for the *BX* virus—which had been available in Rife's own handwriting—were incorrect. In 2016, the British Rife Research Group wrote a paper explaining the errors. Due to a number of technical errors because of limitations of his equipment, Rife had recorded the wrong frequency for *BX* in his lab notes. The actual frequency that Royal Rife should have recorded was 12,830,000 Hz. (Its lower octaves, for equipment that cannot reach that high, are in the next column.) This frequency was used in the clinic that Rife's colleagues set up in 1934, which yielded mostly successful results for cancer subjects.

The above number has been further refined by Dr. Richard Loyd, who reports that it not only works very well, but it also (inexplicably) destroys the *BY* virus.



Sweeps. Sweeps catch mutations of stray pathogens. (Sometimes a sweep is notated "Sweep +/- 200." This means, run a sweep 200 Hz above and below the main signal.) To make sure that the signal lingers on a given frequency long enough, run it in small increments. For higher numbers in the MHz range, sweep +/- 200 and use 0.1-Hz increments. For lower numbers in the Hz range, sweep +/- 100 and use 0.01-Hz increments. These differences adjust for the frequency being used. Make sure to increase the duration of the session so you spend enough time on each frequency.

If your unit cannot reach the MHz range. To use lower harmonics of the MHz numbers, keep dividing by 2 until the range is within your machine's capacity.

The best waveform to use. Set the machine for a square wave, which provides harmonics that can be useful when rifeing for pathogens. (Sine waves as a rule don't contain harmonics.)

All Cancers—READ THIS FIRST!!!

No matter what kind of cancer you have or where it's located, use the frequency based on Royal Rife's original number (or its lower octave) in addition to any other frequencies that are specific to your situation. Royal Rife used high megahertz (millions of hertz) frequencies rather than low hertz frequencies to eliminate cancer because the Mortal Oscillatory Rates of the pathogens resonate in the high MHz ranges. However, many modern machines cannot reach the MHz ranges, especially if they use radiant plasma (as opposed to electrodes). If your unit can't output in the MHz range, use the lower octaves noted below.

Dr. Richard Loyd discovered that with a minor adjustment to the *BX* virus frequency, the *BY* virus also responds (he cannot explain why). Therefore, try this program first and use consistently. For this entry, the higher numbers are Hz rather than MHz (megahertz).

Pay attention to your response and to your lab tests. Continue your sessions even after you feel well.

For All Cancers (the *BX* virus), very good results:

- ◆ **12,833,000 Hz.** Sweep 200 Hz on either side of the main signal, in 0.1-Hz increments.
- ◆ **1,604,125 Hz** (a lower octave). Sweep 200 Hz on either side of the main signal, in 0.1-Hz increments. You can also run that frequency and 1,604,126 Hz at the same time, on two different machines or one machine with multi-signal capabilities.
- ◆ **200,515.62 Hz** (an even lower octave). Sweep 100 Hz on either side of the main signal, in 0.01-Hz increments.
Use with radiant plasma units, such as any of the ones made by Pulsed Technologies, or Resonant Light's PERL M+.
- ◆ **3133.056 Hz** (an even lower octave). Sweep 100 Hz on either side of the main signal, in 0.01-Hz increments.
Use with EMEM equipment or other "audio range" units.
Time: 1½–2½ hours, at least once (ideally twice) a day.
Alternate Program (supposedly the *BY* Virus), good results:
- ◆ **11,430,000 Hz.** Sweep 200 Hz on either side of the main signal, in 0.1-Hz increments.
- ◆ **1,403,000 Hz** (a lower octave). Sweep 200 Hz on either side of the main signal, in 0.1-Hz increments.
Time: 1½–2½ hours, at least once (ideally twice) a day.

From Jimmie Holman's Romanian laboratory tests. Note that these frequencies might not work on units other than those manufactured by Pulsed Technologies:

24024, 25520, 28392, 31800, 32760, 37128,
41496, 43120, 44520, 44688, 45000, 45864,
50232, 58968, 61712, 63336, 67704, 68208,
72072, 74480, 76440, 76560, 80808, 85176,
89544, 99506 (use the last one with care, due to die-off)

Two frequencies at once (from Dr. Loyd): 2,977,792 (upper harmonic of 727) and 2,974,659 (2,977,792 minus 3133).

Three-day protocol: One researcher recommends different sessions for Day #1, Day #2, and Day #3. These numbers are for a low-range unit. Use the other protocols first.

On Day #1, use frequencies between 2093 and 2205 in intervals of 8: 2093, 2101, 2109, 2117, etc.

On Day #2, use frequencies between 2096 and 2208 in intervals of 8: 2096, 2104, 2112, 2120, etc.

On Day #3, use frequencies between 2099 and 2211 in intervals of 8: 2099, 2107, 2115, 2123, etc.

Cancer not killed by 2008 or 2127.5: 2180, 2182, 2184

From Dr. James Bare: 10025, 10026, 10027; with an experimental sweep of 10022–10029

Pain from cancer, all types: 2008, 2127.5, 2720, 40K

If mercury or other heavy metals are involved, see **CHEMICAL SENSITIVITY / POISONING**. Also see **LIVER AND GALLBLADDER**, *Liver*, “Hepatitis C”; the “*Herpes*” entries under **VIRUSES**; **BACTERIA**, “*Chlamydia trachomatis*”; and all applicable entries under **PARASITES, PROTOZOA AND WORMS**. Also see “*Candida albicans*” and similar entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**, if there is fungal involvement. You can also run sweeps across the 450–900 Hz ranges, to which most bacteria and molds, and also some viruses, appear to respond. According to Dr. James Bare, viruses also seem to respond in the 1450–1850 Hz ranges so run sweeps here too, setting your unit for 30 seconds per one Hz step. The program may be long, but worth trying if your condition is severe.

Adenoma, Cervical

See “Uterine Cancer or Tumor” in this section.

AIDS

AIDS, possibly a form of cancer, is often considered a virus; so see viruses, “HIV (Human Immunodeficiency Virus) / AIDS (Acquired Immune Deficiency Syndrome).”

Astrocytoma

See “Brain Tumor / Astrocytoma” in this section.

Bacillus X Virus

See “BX Virus” in this section.

Bacillus Y Virus

See “BY Virus” in this section.

Basal Cell Carcinoma

See “Skin Cancer” in this section.

Bladder Cancer

329, 635, 847, 867, 9889

Dissolve Tumors Faster Using Two Units at the Same Time

To break apart tumors, Dr. Richard Loyd has conducted experiments running two frequency units at the same time, each set for a different frequency. This arrangement may work up to five times more rapidly than running a single frequency from one unit, due to a phenomenon in physics where two simultaneously running frequencies create a third wave pattern. These setups are especially useful when your machine cannot transmit in the very high Megahertz (MHz, or millions of Hz) range in which cancer viruses are known to oscillate.

The protocols below are named after the Rife researchers who used them. Using the first protocol, one experimenter reported destroying a tumor in just one week. *Be careful! People with brain tumors or lung cancer must use fewer minutes per program because a tumor that’s destroyed too rapidly can cause serious complications due to the immense amount of debris flooding the system.*

◆ **The Scoon Effect.** This method involves using two signals that are 1 Hz apart. You will need either two radiant plasma units or the Atelier Robin F165 electrode device (which can run two frequencies simultaneously). All equipment must be able to output frequencies to at least one decimal point place. On one plasma unit, run the main frequency and on the other plasma unit, run a second frequency just 1 Hz above the main frequency. On the F165 and other electrode generators that can output more than one frequency simultaneously, run both frequencies together.

The following frequencies are specified for equipment that cannot reach the MHz range. If possible, these programs should be used at a duty cycle of 73:

Example 1: 727 and 728, for at least 30 minutes

Example 2: 2007 and 2008, for at least 30 minutes

Example 3: 2127 and 2128, for at least 30 minutes

◆ **The Holland Effect.** This method involves using two signals, one of which is a *multiple of the other*. You will need two radiant plasma units. On one unit, run the primary frequency and on the other, run the *11th harmonic of the primary frequency*. For this protocol, it’s important to set your units to emit square waves to ensure that the signal emits enough harmonics.

Example 1: 1K and 11K for at least 30 minutes

Example 2: 2127 and 23,397 for at least 30 minutes

For more information, see Richard Loyd’s website, royalrife.com.

The Radiation Used to Treat Cancer—*Causes Cancer!*

Cancer is usually treated with chemo and radiation “therapy,” dispensed to either a small area or the entire body. We know that chemo consists of poisonous chemicals. But what, exactly, is the “radiation” dispensed as cancer treatment? And how does it work?

The radiation administered under medical auspices is *ionizing radiation* (IR), which can be in the form of X-rays, gamma rays, or radioactive substances including radioactive iodine. Ionizing radiation is acknowledged to kill cancerous cells because it permanently shatters the natural bonds between DNA strands. But IR also destroys the DNA of normal healthy cells. IR, reports B. Blake Levitt, “consists of very short wavelengths . . . which have enough power to knock electrons off their nuclear orbits and therefore can cause permanent damage on the cellular level . . . [including] genetic mutations.”¹⁸ This destabilization of atoms—in other words, the formation of *free radicals*—corresponds to toxic waste on a biochemical level. A toxic system explains the many “side” effects of this “therapy,” which include nausea, hair loss, diarrhea, memory loss, and scar tissue. But another “side” effect of this “therapy” is either a recurrence of the original cancer, or the formation of other types of cancers!

It’s common knowledge that radiation exposure—whether due to radioactive fallout from nuclear bombs, or meltdowns from nuclear power plants—increases the occurrence of cancers in people living near the source and even farther away. To use the radioactive materials acknowledged to *cause cancer*, as cancer *therapy*, makes no sense!

Bone Cancer

Soak the affected area in colloidal silver and Willard’s Water (Chapter 3 and Appendix A), and paint the area with iodine.

For at least 4 minutes each: 2008, 2125, 2128, 2131, 2140, 2145, 3524, 3672, 3713, 6130, 6601, 6672

Brain Tumor / Astrocytoma

Includes tumors in the spinal cord and brain. Persistent vertigo (dizziness) indicates a tumor in the cerebellum portion of the brain. Other symptoms include changes in memory, vision and mood; headaches; seizures; nausea; weakness; and numbness. Be aware that when cancer microbes are killed, water is left behind. In the brain (as well as the lungs), there’s no place for the water to drain, so you may have to pace your rifting at a slower pace until the water gets reabsorbed into the bloodstream.

Don’t hold a cell phone against the head. Use EMF protection (see Chapter 1, pages 11–16). Also see, under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**, “Encephalitis” and “Meningitis.”

543, 641 (both from Dr. Garvey), 7.69, 7.7, 9.19, 9.2, 8.25, 20, 463, 466, 590, 664, 660 + 690 + 727, 720, 800, 832, 853, 855, 880, 2008, 2127.5, 2170, 2180, 2182

Breast Cancer

According to the American Cancer Society, men account for 1% of all breast cancer cases. Women are particularly susceptible due to their higher percentage of body fat. Toxic fat-soluble chemicals, including parabens (used in most cosmetics and body care products), are directly absorbed by fat cells, which are abundant in the breasts.

Major contributors to breast cancer are antiperspirants and deodorants. When the sweat glands are blocked by

antiperspirant, they can’t perform their natural function of sweating out toxic waste through the skin. Once this waste is prevented from leaving the body, it goes directly back into the bloodstream. Even if “only” a deodorant is used (without antiperspirant properties), it likely contains plastics (anything glycol), a solvent (any alcohol), and a toxic metal such as aluminum (which is a deadly poison and is implicated in many disease, including Alzheimer’s). Women—who are often made to feel ashamed of underarm hair and therefore shave it—are especially vulnerable because there’s no hair to block these chemicals and prevent them from being easily and quickly absorbed into the skin. Men who use toxic deodorant are less likely to absorb it, because much of it sticks to their underarm hair and never reaches the skin.

(If your body emits a strong unpleasant odor, you have too much waste material lodged in your cells and could use a detoxification program. There are alternatives to deadly chemicals in common commercial deodorants and antiperspirants. An excellent deodorant is a small spray bottle filled with some water and a few capfuls of grapefruit seed extract. You can also use a wet finger to spread undiluted grapefruit seed extract under your arms. This will kill bacteria and the odors that bacteria cause. See Appendix G for more options.)

Breast cancer tends to develop in the presence of excess bodily estrogen. Most plastics and some environmental chemicals contain estrogen-like substances that fit the estrogen receptor sites of cells, producing hormone-like effects. Unfermented soy products act in a similar manner. The plant-based estrogens in soy, which remain intact during processing, are hundreds of times more powerful than natural human estrogen and disrupt many bodily functions (see Chapter 3, **Food**). Diindolylmethane (DIM), a supplement derived from cruciferous vegetables, prevents testosterone (which women naturally produce in small amounts) from converting to estrogen in the body.

Women who regularly wear brassieres are three to four times more likely to get breast cancer than women who don't wear bras. Binding the breasts obstructs blood flow and hinders the normal circulation of lymph tissue in the armpit (an area that often produces cancerous cells). Immobilizing the breasts also diminishes the tone of the ligaments in the dense connective tissue that attach to the rib cage and support the breasts. Women fear that their breasts will sag unless a bra is worn; but the ligaments in the breasts (as elsewhere in the body) can atrophy if prevented from performing their weight-bearing tasks. Studies show that women in Japan who wear bras for the first time experience sagging of an inch in just a few months—and that they can reverse some of the breast sagging when they stop wearing bras. If you must wear a bra, make sure that it's loose fitting and constructed of natural rather than synthetic fibers. The bra should not contain "support" wire, either plastic or bone, which in the name of beauty interrupts the circulation of blood and lymph and thus prevents nutrients and oxygen from reaching the breasts and surrounding areas.

Coffee and chocolate, which contain caffeine and other volatile oils, contribute hugely to breast cancer! Some tumors shrink or disappear entirely after just these items are eliminated. Eat organic food and lots of greens.

According to David Brownstein and other top holistic doctors, iodine deficiency also plays a role in breast cancer. It should be taken in mg (not mcg) amounts. Some women apply Lugol's liquid iodine directly to their breasts, both as a preventive measure and also to eliminate tumors once they have formed. Italian oncologist Tullio Simoncini recommends applying a 7% dilution tincture of iodine ten to twenty times daily, allowing a scab to form and fall off naturally at least three times. Some people use topical creams from marijuana or hemp, valued for their potent anti-cancer properties. (The marijuana may work a bit better than the hemp, but it should never be smoked.)

Also see, under **VIRUSES, Herpes, all types**, "Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)" and "*Herpes Virus Type 6 / Human Herpes Type 6*," because recent medical research indicates that these viruses are prevalent in aggressive breast cancer.

The following frequencies were calculated by Jimmie Holman. As they are a mathematical conglomeration of prior frequencies, there are fewer. However, they are more effective, being in a higher range.

10800, 10980, 12464, 13055, 13862, 14700, 14896, 16720, 19024, 19600, 19764, 20978, 21648, 22693, 22550, 22800, 23100, 27084, 27976, 32144, 32175, 34400, 32940, 34894, 36080, 39165, 40260, 40546, 43120, 43188, 43407, 43491, 45000, 45264, 46367, 49042, 53625, 61698, 63632, 66154, 66204, 68K, 68076, 69993, 75K, 75075, 75950, 83926, 88150

Bronchial Cancer

See "Lung Cancer" in this section.

Chemo Causes Cancer Cells to Grow

In Greek, the word *metastasis* means "removal from one place to another." Cancers often *metastasize*. What conventional medicine considers "primary" tumors can acquire greater motility and invasiveness, spreading to distant locations in the body via the bloodstream, lymphatic vessels, and membranes. For example, cancer first manifesting in the lung might spread to the liver, flooding the liver with cancerous lung cells. Metastasization often occurs after the subject has received toxic chemo. Thanks to new, highly publicized research, conventional medicine can no longer presume that this is a coincidence.

New York City Albert Einstein College of Medicine researchers and colleagues discovered that although chemo might initially decrease the number of breast cancer cells in a subject, ultimately its use is counterproductive because it triggers an environment favorable to the growth of tumors. Chemo actively interferes with the body's ability to repair itself and opens more "doorways" on blood vessels—thus encouraging the cancerous cells to not only grow back and increase in number, but also aggressively migrate through the circulatory system.

—summarized from

"Neoadjuvant chemotherapy induces breast cancer metastasis through a TMEM-mediated mechanism,"
Science Translational Medicine Volume 9, Issue 397
July 5, 2017

BX or Bacillus X Virus (from Royal Rife)

Rife's name for a carcinoma strain of cancer. Use the higher frequency if your unit can emit it. If not, keep dividing by 2 until you get a number in the range of your machine. Also see "BY Virus" (below), as Royal Rife's research suggested that there may be another form of the cancer virus. See page 672 for details on using this frequency.

12,833,000 (written as a MHz number: 12,833K)

From Dr. James Bare: 10025, 10026, 10027

Also try: 2127.5 (often seen on various lists as 2127 or 2128)

Also try: 2876, 3713

BY or Bacillus Y Virus (reportedly from Royal Rife)

Rife's name for a sarcoma strain of cancer. Some researchers believe that this is an enlarged form of the BX. These frequencies should be used in addition to—not instead of—those of the "BX Virus" (above). Use the higher frequency if your unit can emit it. If not, keep dividing by 2 until you get a number in the range of your equipment. See page 672 for details on using this frequency.

11,430,000 Hz (written as a MHz number: 11,430K)

Also try: 2008, 3524, 20080

A Concise Guide to Rifing for Cancer

Before You Do Anything Else

Before actively trying to destabilize the cancer, seek help from a holistic professional to ensure that your detoxification and eliminative pathways (liver, lymph, kidneys, and colon) can handle the die-off that will occur from rifing. Use the programs under **REGENERATION AND HEALING** to stimulate, support, and regenerate the eliminative channels, organs, glands, and overall system.

Session Schedules: Rifing Is Your Priority

Any cancer therapy schedule must be used aggressively. Cancer is persistent in its growth, so the means to stop it must be persistent as well. Healing may be expedited if sessions are at different times day to day.

- ◆ ***Most Common Protocol: Regular Sessions Every Day with No Rest Intervals.*** Most people who successfully eliminate cancer tell me that they adhere to the following schedule: Two sessions every day, one in the morning and one in the mid or late afternoon. Sessions normally last between 1½ and 2½ hours each. (This means up to 5 hours a day of session time.) This twice-daily protocol is followed for at least 6 months.

Does this seem like too much work? To some people, it is. They'd rather be doing something else than commit the time and energy that self-motivated healing requires. The above guidelines were developed because the elimination of cancer requires a very aggressive approach. It can take up to 10 days or 2 weeks to halt the spread of cancerous tissue before the body can then start to reverse the condition. Taking responsibility for your health requires patience. However, this means that you can very likely reverse the growth of your tumors—and have a far better chance to live a long time.

- ◆ ***Alternate Protocol (Not Recommended!): Regular Sessions Every Day for 5 Days with 2-Day Rest Intervals.*** Some people who successfully eliminate cancer tell me that they always give themselves breaks between sessions as follows: Two sessions every day, one in the morning and one in the mid or late afternoon. Sessions normally last between 1½ and 2½ hours each. This twice-daily protocol entails 5 days on the machine, then 2 days off, to give the body time to eliminate accumulated waste materials. This schedule is followed for at least 6 months.

The above protocol was promoted by a manufacturer whose staff noticed that some customers did well when they followed it. If you have different equipment, this protocol might not work for you—and even with the same unit, this protocol might not work. For cancer, my personal preference is to use the machine every day.

Don't take any "days off" from doing sessions unless you have a very good reason for interrupting your rifing, and you are being monitored at least twice weekly by a skilled practitioner. Even brief gaps in sessions may allow the pathogens to mutate.

- ◆ ***Follow-Up Maintenance for Everyone.*** The Rife researchers I know recommend that after the cancer is gone—and the subject is either pronounced "cured" as established through lab reports, or the cancer is said to be "in remission"—the person follow a maintenance program.

(a) One rife session *once a day* for several weeks or one month. Then gradually add intervals of days, and then weeks, between sessions.

(b) One rife session *every other day* for several weeks or one month. Then gradually add intervals of days, and then weeks, between sessions.

(c) One rife session *once a week* for several weeks or one month. Then gradually add intervals of days, and then weeks, between sessions.

Whichever schedule you decide to follow, *don't stop your sessions prematurely*. This includes taking a break just as you are starting to feel better. Continue rifing for one or two months even after all traces of cancer are gone! After, do a maintenance program until you see clear signs that you're balanced. You will have high oxygen levels; normal pH in all tissues and fluids; high voltage in the cells; and blood free of debris with round, separate red blood cells and viable immune cells.

The consequences of interrupting sessions can be fatal. Some friends were treating their Labrador Retriever for bone cancer once every day. After three weeks, the dog, who had been lethargic and barely able to walk, was joyously running through the woods. The sessions appeared to eliminate his pain, even though a large tumor on one of his legs was still visible. Encouraged, my friends devoted less time to rifing their dog, even though I pleaded with them to continue with the same daily schedule. Then the unit suddenly stopped working and had to be shipped to the manufacturer for repairs. By the time it was returned—leaving an interval of eight days without sessions—the dog was limping again. My friends put him back on the same program, but the Rife Therapy no longer worked, and the noble creature died.

Why did this happen? The buildup and transfer of energy takes time to achieve. The animal's cancer was so advanced that after the sessions stopped, the owners simply didn't have time to build up the momentum again—and the cancer sprang back, unchecked. Also, because the same program no longer appeared to have an effect, it's probable that the pathogens had mutated.

This story is not meant to scare you, but to emphasize that life-threatening conditions need attention. It took time for the cancer to develop, so you'll need to take time to eliminate it.

The Most Effective Frequencies for Cancer

For most health problems, frequencies below 20,000 Hz work well. For cancer, frequencies in the KHz (kilohertz, or thousands of Hz) range are more effective than lower numbers. However, some units cannot transmit in those ranges; so if yours can't, there are still some excellent tumor frequencies in the lower ranges.

Peter Walker cites research from German scientist Kurt Olbrich, who acknowledged that frequency therapies eliminate cancer much more successfully than drugs.

When treating cancer, it is very important to determine the exact frequency to use. Otherwise, the cancer virus will not be destroyed and in some cases may even grow faster. . . . Every person has their own systemic weaknesses and the development stage of cancers differs accordingly, according to the environment in the patient's body. . . . The frequency to use must be determined individually by testing the virus obtained from each patient under the microscope—just like what Royal Rife did. . . . Most people do not know that viruses do not have a fixed size. They are smaller when young and larger when full size; and this effects their resonance frequency, too.¹⁹

The body's terrain does contribute to a pathogen's oscillation rate. And a customized program is always preferable. However, for many individuals with cancer, the terrain is similar. Rifers have obtained better-than-average to excellent results with the frequencies in this Frequency Directory, especially those used by Rife himself. If you don't have a practitioner to customize a protocol for you, the lists in this Directory are a good place to start.

Can Some Frequencies Stimulate Cancer Growth?

This is true, but in a very narrow context. Over a period of 30 years, Australian medical doctor John Holt (now retired) was using a frequency of 434 megahertz (MHz)—or 434 million Hz—as part of an overall treatment to eliminate cancer cells. Peter Walker reports:

Activated cancer cells are vulnerable to low levels (150 rads) of X-ray radiation. . . . [However, under normal circumstances] only a small number of cancer cells are active at any one time, making cancer very difficult to treat [with X-rays]. . . . Holt discovered that by exposing the body to 434 MHz radio waves, all the cancer cells were activated for a short period (about 20 minutes)

and could thus be destroyed by subsequent low level X-ray radiation. . . . Over 35,000 patient records stretching back over a period of 30 years . . . [indicate Holt's] high success rates for treating cancer. . . . Dr. Holt's work became known to the Rife research groups in 2004 after an Australian television program, "A Current Affair" reported positively about Holt's work. . . . Yet his work had been largely ignored by cancer research organizations in Australia and elsewhere. . . . Despite several requests for his method to be scientifically validated in proper clinical trials, these requests were largely ignored except for two bogus trials that, according to Dr. John Holt, were not set up to properly validate his methods and were designed to discredit his work. . . . AMA doctors had not even bothered to look at his methods for over 15 years.²⁰

After Holt was denied access to X-ray equipment, he developed an alternative method to kill cancerous tumors by injecting them with a glucose blocking agent and then subjecting them to 434 MHz radio waves. All cancer cells require glucose in order to grow; so essentially he was starving them. Using a glucose blocking agent in conjunction with 434 MHz is generally believed to be less effective than X-rays, but it does help in many cases.

Incidentally, Dr. Holt believed that the main cancer-stimulating frequencies were in the radio wave range of 430 MHz to 440 MHz. However, he then found that frequencies in the microwave range above 2 GHz (gigahertz, or 2 billion Hz) could also cause cancer cells to grow. *Many cell phones operate in these ranges.* When placed close to the head, these high-frequency cell phones create brain tumors. Keep your phone on "speaker" mode away from your ear or use a specially designed protective earpiece. For vital information about electrosmog and remedies, see the Chapter 1 Insert, "Electromagnetic Fields and Your Health," pages 11–16.

The Best Rife Equipment for Cancer

Whatever equipment you use, the signal must penetrate deeply into the tissues. For an electrode unit, some rifers select the GB-4000, whose optional amplifier attachment emits (legal, low-power) RF to drive the signal into the body. For a plasma unit with a low-power (and legal) RF carrier, many rifers like the PERL-M from Resonant Light Technology. Those who don't want RF often select a plasma unit from Pulsed Technologies, whose special engineering sends the signal deeply into the body without having to use RF.

Some people with cancer use both electrode and radiant plasma units. They apply the electrodes locally at the tumor sites while running plasma, ensuring the successful delivery of the frequencies to all possible areas.

If Your Tumor (and Pain) Grow Instead of Diminish

After you've been rifting for a while, it can be scary to feel a mass that's larger and/or more painful than it was originally. But these changes don't necessarily indicate that the cancer is growing and spreading. Consider the following possible responses of tumors to rifting:

- ◆ *The tumor becomes smaller immediately*, a cause for celebration and obviously easy to handle emotionally.
- ◆ *The tumor becomes harder but doesn't grow*, which may be less easy to handle emotionally but at least it's apparent that the rifting is "doing something."
- ◆ *The tumor becomes larger before shrinking*, not easy to handle emotionally if it hasn't gotten smaller yet. An increase in tumor size may be the body's natural response to debris: toxins are surrounded to prevent migration to other areas. Swelling and inflammation occur after a tumor starts to break apart because the body is sending lymphatic fluid—blood plasma, liquid without the red blood cells—to cushion the area, and white blood immune cells to scavenge the wastes. This material surrounding the tumor is spongy or soft. If the tumor *is* being destroyed, the area will eventually become smaller. The waiting period can be difficult.
- ◆ *You feel new pain where none was felt before*, which can be emotionally difficult, especially if the tumor enlarges too. According to Dr. Richard Loyd, however, increased pain can be a good sign. Tumors often swell and get inflamed just before they disappear.

Always *monitor the tumor(s)*. Make sure your detoxification pathways and elimination channels are clear. Drink plenty of mineralized water to help flush the waste from your system.

Spend enough time with each frequency. Three minutes per frequency is a general rule with many (though not all) units and for most conditions. However, you may need to spend much more time with certain frequencies. One or two hours for one frequency is common.

If you know where the tumors are and you're using either electrodes, or a plasma unit whose tubes are meant to be held, work on a 6-inch square area at a time. Two tumors that are very far apart should be treated as two distinct areas. When using plasma, keep the light tube close to the cancerous areas.

If Your CEA Levels Increase While You're Rifting

CEA is an acronym for *carcinoembryonic antigen*, a protein found in embryonic tissue but not in normal tissue of infants, children, or adults. During pregnancy, CEA proteins assist in the rapid growth of the fetus. Cancer cells, which have abnormally rapid growth similar to that of a developing fetus, are thought to contain these proteins as well.

Cancer specialists typically use CEA levels as an indication of cancer in the body, but such tests may be unreliable. Not all cancerous tissue produces CEA, which appears to be limited to the lung, breast, ovary, pancreas, and a few other sites. Increased CEA levels can also indicate states *unrelated* to cancer, such as some types of inflammation, liver conditions, and stomach ulcers. Also, smokers tend to have higher CEA levels than non-smokers.

The late New York City-based medical doctor Nicholas Gonzalez—the recipient of a \$1.4 million grant from the National Center for Complementary and Alternative Medicine, and specialist in the Kelley cancer program (raw juices, coffee enemas, the Budwig protocol, and huge amounts of pancreatic enzymes)—had a more comprehensive understanding of CEA readings. The reason CEA tests are so unreliable, Gonzalez said, is that when a tumor breaks down, it releases measurably high amounts of CEA into the bloodstream. Ironically, the healing due to the breakdown of a tumor is often misinterpreted in lab reports to mean that the person is becoming sicker, which is the opposite of what is actually occurring. As an illustration, Gonzalez mentioned one person who completely recovered from cancer and had a CEA of 350,000—the highest in medical history.

I would never tell anyone with cancer not to see a doctor. However, evaluating CEA results as negative, without understanding what the numbers may actually indicate, can cause unwarranted fear. This is why I suggest a skilled holistic practitioner who is experienced with how the body works under cancerous conditions.

If Your PSA Count Increases While You're Rifting

PSA, an acronym for *prostate-specific antigen*, is an enzyme produced by the prostate gland in small amounts. According to allopaths, when too much PSA enters the bloodstream, or if it enters the bloodstream too quickly even when levels are within so-called normal range, this indicates enlargement, infection, or disease of the prostate. The first protocol that doctors suggest for men with high PSA readings is high doses of pharmaceuticals.

Most men with elevated PSA levels, afraid of dying from cancer and unfamiliar with holistic concepts, understandably follow their doctor's advice. However, holistic medicine offers a much different interpretation. This situation is similar to that of CEA readings (see previous heading). When a prostate tumor starts to break apart, the PSA count can rise in response to microbial die-off. A PSA test doesn't distinguish between active (viable) and inactive (non-viable) viruses. If the viruses are disabled by the body, it means that the immune response is working properly.

An experiment described in the *Journal of the National Cancer Institute* exposes the conventional medical model as an assumption rather than a fact.

Measurement of serum levels of prostate-specific antigen (PSA) is widely used as a screening tool for prostate cancer. However, PSA is not prostate specific, having been detected in breast, lung, and uterine cancers. In one study, patients whose breast tumors had higher levels of PSA had a better prognosis than patients whose tumors had lower PSA levels. . . . To our knowledge, this is the first report that PSA may function in tumors as an endogenous antiangiogenic protein [which prevents cancerous tumors from developing new blood vessels]. This function may explain, in part, the naturally slow progression of prostate cancer. Our findings call into question various strategies to inhibit the expression of PSA in the treatment of prostate cancer.²¹

Since the publication of this experiment in 1999, the medical community has put more energy into developing procedures that deprive rapidly growing cancerous tissue of its needed blood supply. However, many doctors (as well as men with prostate cancer) still erroneously believe that high PSA levels indicate illness, and respond with inappropriate treatment.

Dr. Nicholas Gonzalez had advised that people with high PSA levels (one hundred or over) for long periods are *recovering* from cancer. In his experience, increased PSA levels signified a positive, healing response by the body.

Rifing Alongside Radiation and Chemo

Big Pharma uses the word “therapy” to divert attention from the inherent toxicity of radiation and conventional chemo—neither of which work. The radiation used for cancer is the same type of dangerous radiation emitted by nuclear reactors when they leak, so there’s never any good reason to expose yourself to it no matter what it’s called. (Note that Rife Therapy may not be able to repair all of the DNA damage caused by radiation.)

Conventional chemo “therapy” consists of strong poisons (usually antifungal) that are administered either via intravenous drips or injection. The chemicals don’t remain at the tumor sites, but spread throughout the body. The rationale (and hope) is that the cancer cells will die from these poisons before the rest of the body does. However, what chemo actually does is very different from what we imagine or wish it does. Chemo suppresses immune function and impairs the liver’s ability to do its job, that of breaking down toxic substances into harmless byproducts. A cancer-ridden body is generally too weak, debilitated, and stressed to eliminate poisonous chemicals that the body was never designed to handle. Moreover, recent research has shown that chemo creates an environment *favorable* to tumor growth—so even if levels of cancerous cells initially decline, they can (and are mostly likely to) eventually *spread*.

Rifing causes waste. This is why, for most people who have previously received chemo (or who are currently receiving it), rifing doesn’t work as well as it could work for people who haven’t had chemo at all. These detoxification issues don’t indicate anything negative about Rife Therapy; they simply demonstrate that the frequencies are doing their intended job.

Should you insist on combining chemo with rifing, be careful. First, consult a qualified *holistic* practitioner to ensure that all detox channels (colon, kidney, liver and lymph) are functioning properly. Be aware that the energy fields from rife units can cause *electroporation*, or increased permeability of cell membranes. This means that higher levels of chemo will be escorted into the cancerous cells, increasing the potency of your usual dose. Therefore, *your chemo dose will probably need to be lowered if you’re rifing. You must be carefully and consistently monitored to ensure that you’re receiving the correct amount.*

One rife manufacturer unofficially recommends waiting two to five days between chemo and the next rife session. In my opinion, waiting is counterproductive because during that period the pathogens could mutate. If you’re feeling so ill from chemo that you need to wait, I have to ask what you’re hoping to accomplish by receiving chemical poisons that have been proven not to eliminate cancer, and which are very likely making you sicker.

Many people with cancer have told me that they sincerely believed Rife Therapy had merit. However, having received a grim prognosis from their doctor—not to mention intense pressure from distraught family members—they panicked, threw away their discernment, and underwent chemo (sometimes with rife sessions, sometimes without). Mindlessly following establishment medicine, they could no longer take responsibility for their health and therefore were unable to utilize rifing or other holistic protocols correctly. Under these circumstances, Rife Therapy was set up to fail. And it usually did.

If your detox and elimination pathways are reasonably clear and your immune response has not been destroyed by anti-cancer agents, you have more options. There are a surprising number of viable alternatives to conventional chemo. Some enlightened doctors are achieving good results by administering low doses of chemicals locally along with heat, which makes tumors more vulnerable to being destroyed. There is already a history of heat being successfully used with the herb mistletoe, injected at the tumor site(s). A local toxicity rather than systemic toxicity always makes it easier for the body to handle any die-off from rifing. In Europe, cancer subjects have been able to accomodate a rife session on the same day as the administration of these highly localized therapies.

It can be very helpful to hear about others’ experiences with rifing. Appendix A lists some Internet Rife Therapy support groups that you can join.

Candida Carcinomas

Malignant tumor in connective tissue accompanied by *Candida albicans*. Also see **CANDIDA, FUNGI, MOLDS AND YEASTS**, "*Candida albicans*."

465, 2167, 2182

Carcinoma

Malignant tumor enclosed in connective tissue, from the inner or outer epithelial lining of organs. According to the Australian Naturopathic Network, *Euphorbia peplus* (radium weed) has been found to help sun spots, basal cell carcinoma, and squamous cell carcinoma to drop off. Also see specific area and/or condition, and "*BX Virus*" in this section.

From Dr. James Bare: 10025, 10026, 10027

55, 127, 304, 462, 590, 644, 660 + 690 + 727, 787, 852, 856, 880, 901, 1352, 1582, 1820, 2008, 2098, 2104, 2112, 2120, 2127.5, 2120 to 2130 (scan), 2136, 2144, 2152, 2160, 2168, 2176, 2184, 2192, 2200, 2217, 5K, 9999

Cervical Adenoma or Cervical Cancer

See "Uterine Cancer or Tumor" in this section.

Esophageal Cancer

There are no known frequencies for this type of cancer per se. Use the overall cancer frequencies at the beginning of this section. University of Texas (Arlington) researchers discovered that the mineral zinc selectively stops cancer cells from growing, especially in the esophagus, while leaving normal cells alone. Zinc is driven into the cells by quercetin, a bioflavonoid supplement. Both are available in stores.

Colon Cancer

Also known as colorectal cancer. A zinc deficiency often exists. Also see "Intestinal Cancer" in this section.

From Dr. John Garvey: 656, 1744

Fibrosarcoma

Malignant tumor containing connective tissue developing rapidly from fibrous tissue.

From Dr. John Garvey: 1744

Gastric Cancer

676

Glioblastoma

See "Brain Tumor / Astrocytoma" in this section.

Glioma

See "Brain Tumor / Astrocytoma" in this section.

Hodgkin's Disease / Lymphogranuloma, Malignant

Malignant enlargement of the spleen, lymph tissue and liver, often accompanied by weight loss, fever, night sweats, increased white blood cell count, and anemia (decrease in number of red blood cells or in the oxygen-carrying capacity of red blood cells). Hodgkin's Disease is unusual for cancer because the tumors do not contain much abnormal tissue. Also see **BACTERIA**, "*Chlamydia pneumoniae*" and **VIRUSES**, *Herpes*, *all types*, "*Herpes Virus Type 3 / Herpes zoster / Chicken Pox / Varicella / Shingles*," as about one-quarter of people with Hodgkin's Disease are also afflicted with this form of *Herpes*. Also see **VIRUSES**, "Epstein-Barr Virus / Infectious Mononucleosis

My Story of Cancer: Not Intimidated by the Cancer Establishment

Perhaps you've read [these stories] in women's magazines. Usually the woman finds out by accident she is sick. Then on we read through the grueling treatment, through one, perhaps two apparent remissions inevitably followed by the return of the disease. We read as the woman distances herself from her professional life, as her significant relationships deepen or disappear. Then the woman dies. My story is not like that. Now when I read those stories, I see something else: how intelligent, educated women listen to what conventional American medicine tells them about cancer, how they accept their treatments, no matter how damaging or horrific, and die. I wonder at how little they question what caused their cancer and why their treatments are so debilitating and ineffective. Perhaps because of their ordeals, death is a longed-for release when they write about it, but somehow I believe that between the period of the final, eloquent sentence and the beginning of the editor's italicized note there was a whole world of suffering.

Truth #1: I didn't need all that chemotherapy and radiation. I discovered less invasive therapies to kill the cancer and rebuild my immune system. Truth #2: I did discover reasons why I developed cancer. These reasons may or may not be true, but they satisfy my need for reasons. The strategies appear to be working because I have never felt better. Truth #3: I do stand up against the medical establishment. I believe that if I had taken the "cure" conventional medicine offered me, I would never be as mentally and emotionally strong as I have become.

Cancer treatment is a question of choice. You either choose to treat your cancer with alternative treatments and learn to live with the ambiguity of always being outside the medical establishment, or you allow doctors to treat your body as if it were a third world country with a particularly nasty dictator that they nuke and poison until they say you are cancer-free, and then you wait.

—Susan Hussey, "One Health, One Disease"
excerpted from *Organica News*, Winter-Spring 2005

/ Chronic Fatigue Syndrome (CFS),” as medical research indicates that this virus is also prevalent in Hodgkin’s. 1522 (from Dr. John Garvey), 10, 440, 880, 552

Intestinal Cancer

May be caused by *Fasciolopsis buski*, otherwise known as a fluke (or type of flatworm), which is also implicated in ulcers. Also see “Colon Cancer” in this section.

55, 15, 2K

From Dr. Hulda Clark: 21607.59, 1075.78 (adult and eggs), and 21508.01, 1070.82 (larvae)

Larynx Cancer

The larynx, also known as the voice box, is the portion of the anatomy in the throat that contains the vocal cords.

327, 524, 731, 1133

Leukemia

Malignant, abnormal increase of white blood cells. Exposure to radioactivity, dangerous chemicals, or parasites may be involved. Recent studies show Epstein-Barr Virus present in a statistically high number of leukemia cases; so see “Herpes Virus 4 (Human Herpes Virus 4) / Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)” under **VIRUSES, Herpes, all types**. Also see “Leukocytosis / Leukosis” in this section.

55, 590, 660 + 690 + 727, 787, 880, 2008, 2127.5, 2217

Leukemia, Feline

Cancer of the blood and bone marrow in cats, spread by contact with urine, feces, saliva or vomit from an infected cat. Symptoms are lethargy, dehydration, and fever. Cats are stricken suddenly and kittens under four months usually die within two days. Also see **VIRUSES**, “Feline (Cat) Immunodeficiency Virus (FIV).”

258, 332, 414, 424, 544, 741, 743, 830, 901, 918, 997

Leukemia, Hairy Cell

A shortage of, and abnormal, blood cells. Also see “Leukemia” in this section.

122, 622, 932, 5122 (all from Dr. Garvey), 488, 781

Leukemia, Lymphatic

Malignant, abnormal increase of lymphocytes, a type of white blood cell that includes NK (natural killer) cells, T cells and B cells, which are produced in the lymph. Also see “Leukemia” in this section.

From Dr. John Garvey: 478, 833

Leukemia, Myeloid

Malignant, abnormal increase of leukocytes or white blood cells (produced in many different parts of the body). Also see “Leukemia” in this section.

From Dr. John Garvey: 422, 822

Leukemia, T cell

Malignant, abnormal increase in the number of T cells, a type of lymphocyte. Also see “Leukemia” in this section. From Dr. John Garvey: 222, 262, 822, 3042, 3734

Leukocytosis / Leukosis

Increase of leukocytes (white blood cells) or of the tissue that forms them. Also see “Leukemia” in this section.

612, 633, 644, 653, 3722

Liver Cancer

Typical symptoms include nausea, vomiting, liver pain, and jaundice. Milk thistle and fresh vegetable juices are used for support. See, under **LIVER AND GALLBLADDER, Liver**, “Hepatitis B” and several entries of “Fluke, Liver.”

214 (from Dr. John Garvey), 393, 479, 520, 734, 3130

Lung Cancer

Some people are asymptomatic, but others experience unremitting coughing, chest pain, shortness of breath, coughing blood, and fatigue. When cancer microbes are killed, water is left behind. In the lungs (as well as the brain), there’s no place for the water to drain, so you may have to pace your rifing at a slower pace until the water gets reabsorbed into the bloodstream. Try breathing ozone through olive oil, or inhaling colloidal silver through a medical nebulizer or an ultrasonic humidifier with its filter removed (see Chapter 3). Two common viruses have recently been associated with lung cancer, so also see under **VIRUSES**, “Papilloma Virus / Human Papilloma Virus (HPV)” and “Rubeola / Measles.”

From Dr. John Garvey: 462, 852, 1582

Also try: 776, 2104, 2144, 2184, 3672

Lymphogranuloma, Malignant

See “Hodgkin’s Disease / Lymphogranuloma, Malignant” in this section.

Lymphoma, Non-Hodgkin’s

Enlarged lymph nodes and perhaps lesions in the lung, bone, gastrointestinal tract, and skin. In a University of Southern California study of 268 sick children who had Non-Hodgkin’s Lymphoma, those whose mothers used pesticides in the home once or twice a week were almost 2.5 times more likely to develop Non-Hodgkin’s Lymphoma as the control group. If the mothers used pesticides more often, the children were 7 times more likely to develop the cancer. Pregnant women exposed to pesticides by exterminators in their homes were 3 times more likely to have a child with cancer. Children directly exposed to pesticides were 2 times more likely to develop cancer. For detoxification assistance, see entries under **LIVER AND GALLBLADDER, Liver**, and **RESPIRATORY TRACT, Throat and Lymph Nodes**. See **CHEMICAL SENSITIVITY / POISONING**. Also see **VIRUSES**, “Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome

(CFS),” as medical researchers have found that this virus is often prevalent in lymphoma.

First try: 574, 588, 666, 778, 1078, 1120, 1340, 1440, 1744, 3524, 3713

Then try: 2004, 2008, 2012, 2016, 2128, 3672, 7760

Melanoma Metastasis

A pigmented mole-like tumor usually on the skin that can move to other parts of the body. Also see “Mycosis Fungoides” and “Skin Cancer / Squamous Cell Carcinoma / Basal Cell Carcinoma” in this section.

979

Multiple Myeloma

Abnormal, diffuse increase of plasma cells in the bone marrow, accompanied by anemia (deficiency of red blood cells or iron), and painful swellings on ribs, skull, and spine. Also see other frequencies in this cancer section.

967 (from Dr. Richard Loyd), 249, 418, 475, 647

Mycosis Fungoides

A type of skin cancer resembling eczema. Also see, in this section, “Melanoma Metastasis” and “Skin Cancer / Squamous Cell Carcinoma / Basal Cell Carcinoma.”

853 (from Dr. John Garvey), 532, 662, 678, 1444

Non-Hodgkin’s Lymphoma

See “Lymphoma, Non-Hodgkin’s” in this section.

Oligodendroglioma

See “Brain Tumor / Astrocytoma” in this section.

Ovarian Cancer

Rare in women under 40, the most common symptoms are persistent abdominal bloating, constant pain in the pelvic area and abdomen, and digestive upsets, including feeling full soon after eating or not being able to eat much. Other symptoms include abnormal diarrhea or constipation, a frequent need to urinate, and constant fatigue. Don’t rely solely on the following experimental frequencies. Also see “Cervical Cancer” in this section, and run the general cancer frequencies.

0.07, 0.55, 0.85, 22.5, 47.5, 475.03, 527, 667, 752.7, 988.9

Pancreatic Cancer

High amounts of pancreatic enzymes are taken on an empty stomach for many months. Dr. Hulda Clark saw liver flukes clogging the pancreas, so also see various liver fluke listings under **PARASITES, PROTOZOA AND WORMS**.

Run 4 to 5 minutes each: 545, 547, 556, 600 + 625 + 650, 660 + 690 + 727, 784, 787, 1560, 2K, 2184, 2455, 2489, 2492. Also run 2008 and 2127.5 between 45 minutes and one hour per day.

Plasmacytoma

A tumor containing plasma cells occurring outside of the bone marrow, such as the inner organs and lining of the nose, mouth, and throat. Do not rely solely on the frequency below! See “Multiple Myeloma” and other entries in this section.

From Dr. John Garvey: 475

Polycythema Vera

The bone marrow makes too many red blood cells. Symptoms include itching and severe burning in the skin.

5K (run for an hour at a time), 40K (run as long as desired)

Prostate Cancer

This common, relatively low-risk cancer in men features slow-growing abnormal cells in the prostate gland (which produces semen). Occasionally, tumors that grow too large can press on the bladder and prevent urination. Selenium deficiency is associated with a 500% increase in prostate cancer. A heated rectal probe can successfully contain or eliminate this condition. Also see **BACTERIA**, “*Propionibacterium acnes*,” as this microbe may be a secondary cause of some prostate cancers.

20, 60, 72, 95, 125, 304, 408, 442, 660 + 690 + 727, 688, 748, 766, 787, 790, 800, 854, 920, 1840, 1875, 1998, 2008, 2050, 2127.5, 2120, 2125, 2130/2131, 2140 (for 3 to 6 minutes), 2145, 2217, 2250, 2288, 2720, 3672 (for 3 to 4 minutes), 5K, 10025

Rhabdomyosarcoma

Striated muscular tissue tumor.

660 + 690 + 727, 784, 880, 2K, 2005, 2008, 2016, 2048, 2084, 2093, 2100, 2127.5, 2184, 2217, 2586, 6024, 6384

Rhabdomyosarcoma, Embryonal

Striated muscular tissue tumor; but this one is undifferentiated and somewhat resembles an embryo.

Major frequency: 2586

Then try: 2004, 2008, 2016, 2032, 2040, 2060, 2586, 4445, 5476, 6024

Sarcoma

Tumor, sometimes with connective tissue. Also see specific area condition and “BY Virus” in this section.

From Dr. James Bare: 10025, 10026, 10027

55, 127, 462, 590, 660 + 690 + 727, 787, 852, 856, 880, 1582, 1755, 2008, 2120 to 2130, 2127.5, 20080

Skin Cancer / Squamous Cell or Basal Cell Carcinoma

Squamous cell tumors are thick and rough and occasionally ulcerated, with a crusted surface over a raised, grainy surface. *Squame* is Latin for “fish scales.” Tumors appear most often on the face, ears, lips, neck, bald scalp, hands,

shoulders, arms, and back. Skin that's injured from burns, chemicals, chronic sores, scars, X-rays and tanning booths (which dispense dangerous UV wavelengths) is more prone to cancer. Those with fair skin, light hair, and blue or green eyes, as well as people with poor immune function, are at higher risk than dark eyed, darker skinned people.

Chronic inflamed skin lesions, moles, or sores that don't heal may indicate squamous cell carcinoma; see a doctor. Early treatment is often effective. Despite modern warnings to avoid the sun, Dr. Royal Lee discovered that the sun's rays are either harmful or healing, depending on one's diet: skin cancer may erupt if polyunsaturated fatty acids are lacking in the diet (see Chapter 3, page 434).

A certain preparation has been found to eliminate skin cancers (see Sidebar, "Black Salve (Cansema) for Skin Cancer"). Also see, in this section, "Melanoma Metastasis" and "Mycosis Fungoides."

Run 760 and 2116 (for 30 minutes), 2280 (for at least 5 minutes), and run for 4 minutes each: 666, 2008, 2125, 2128, 2131, 2140, 2145, 3672, 6601, 6130, 6672

Stomach Cancer

All of the frequencies below are for *Helicobacterium pylori*, a bacterium also implicated in ulcers. The most helpful antibacterials for ulcers are colloidal silver; the probiotic *Lactobacillus salivarius*; essential oil of oregano; and Manuka (tea tree) honey from New Zealand (which should be labeled at least UMF 15+, which stands for "Unique Manuka Factor" that designates the honey's antibacterial strength). Use the general cancer frequencies in addition to the ones below. Also see "*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer" under **BACTERIA**; this pathogen is often implicated in stomach cancer.

First try: 676 (for at least 30 minutes a day)

Also try: 660 + 690 + 727, 676, 880, 2167, 2950

Squamous Cell Carcinoma

See "Skin Cancer" in this **CANCER** section.

Testicular Cancer

Cancer of the testicles (male gonad that stores sperm), in which the most common symptom is swelling and/or a lump in one or both testes. There may or may not be feelings of heaviness and pain, either in the lower belly or the groin, along with extra fluid in the scrotum (the sac of skin covering each testicle). Occasionally, a testicle might be shrunken. This cancer accounts for 11%–13% of all cancer deaths in men between ages 15 and 35.

Iodine expert Dr. David Brownstein recommends painting the testicles with liquid iodine. This can be done up to 20 times a day, as iodine is a potent germicide and most people are deficient in this vital mineral. Use general cancer frequencies. The frequency below, specified for testicular cancer, is experimental and unverified.

2500 (for at least 10 minutes, longer if possible)

Black Salve (Cansema) for Skin Cancer

This often caustic cream, based on a Native American recipe, separates tumors from healthy tissue. Depending on the ingredients, Black Salve may also remove precancerous tissue, skin tags, moles, and warts. It can be taken internally if made with suitable ingredients.

In mid-19th century London, Dr. J.W. Fell applied a paste of bloodroot (whose alkaloids are known tumor destroyers) and zinc chloride to his clients' tumors and eliminated cancer within four weeks. In the 1930s a United States-based doctor, Frederic E. Mohs, described his method of excising tumors with black salve in *Chemosurgery: Microscopically Controlled Surgery for Skin Cancer* (last published in 1978). The original recipe contained bloodroot and galangal. Newer versions may include burdock, chaparral, comfrey, graviola, marshmallow, and mullein.

The FDA does not allow merchants to make claims for Black Salve, even if those claims are true. Most of the companies that carry Cansema are not based in the United States, but the salve can be ordered online.

The tumorous skin area must be gently scraped or pierced before applying the salve. This allows the salve to enter the skin and do its work. Skin tumors typically emerge in one piece, with the entire root excised. The salve has been known to cause irritation to normal skin while it's killing the abnormal tumor tissue, so be careful when applying the salve. Nevertheless, people generally find the irritation minor compared to the healing that the ointment provides.

Uterine Cancer or Tumor

The cervix is the lower portion of the uterus. Symptoms include abnormal vaginal bleeding, vaginal discharge, and pain with urination or sex. Vaccine manufacturers push the theory that the Human Papilloma Virus (HPV) causes this cancer, and administer vaccines to girls as young as 9 years old. However, cervical cancer is rare, most women with HPV don't develop uterine cancer, and about 90% of HPV infections clear up on their own within two years. The primary risks for this cancer include poor diet, smoking, giving birth to three or more children, low immune function, and hormonal birth control use for more than five years.

See **VIRUSES**, "*Papilloma Virus* / Human Papilloma Virus (HPV)." Also see, under **VIRUSES**, *Herpes*, **all types**: "*Herpes simplex 1*" and "*Herpes simplex 2*." Also see "Carcinoma" and the general programs in this section, and **WOMEN**, *Uterus*, *Cervix*, *Ovaries and Fallopian Tubes*, "Pelvic Inflammatory Disease (PID)."

127 (from Dr. John Garvey), 443, 2288, sweep 2944–2968 (at least 20 minutes)

End of Cancer section.

CANCERUM ORIS

See under **ULCER**.

CANDIDA CARCINOMAS

See under **CANCER**.

CANDIDA, FUNGI, MOLDS AND YEASTS

The word “fungus” is a broad classification that includes mildew, molds, rust, smut and yeasts, as well as mushrooms, morels, puffballs and truffles. Once classified as plants, fungi share many of the same characteristics as animals—and are now considered unique enough to be placed into a separate category or kingdom. Between 70,000 and 1.5 million species of fungi are estimated to exist.

Fungi feed in three ways and are classified into three groups. The first group contains enzymes that digest the cellulose and lignin in the dead organic matter on which it grows (leaves, trees, manure, insects, animals). We call this process “rotting.” Usually, this group eventually eliminates what it eats. In the second group, parasitic fungi live in or on another organism, attacking it while causing serious damage and enormous suffering. These parasitic fungi eventually kill the hosts. The third (and relatively small) feeding group is beneficial. Its members, which may live in the soil, form a symbiotic partnership with plants (mainly trees). The tree supplies them with moisture and carbohydrates, and the fungi release minerals and other nutrients into the surrounding soil. Fungi reproduce by releasing spores that are carried elsewhere—either via the wind if they are outdoors, or via the bloodstream if they are living in a host’s body. Highly toxic waste chemicals called *mycotoxins* are carried on these spores.

Fungal infections can be difficult to eliminate, not only due to the fungi themselves but also their mycotoxins. About 25% of the population have an immune defect that prevents them from recognizing mold toxins and tagging them for excretion. Many doctors—including Ritchie Shoemaker, A.V. Costantini, Mark Bielski, Tullio Simoncini and William Crook—have found that in such individuals, fungi and their highly poisonous mycotoxins accumulate in the body and effect every system imaginable. Digestive tract disorders include diarrhea, vomiting, degeneration, and liver damage. Circulatory problems include blood vessel breakage, heart failure, inflammation of the heart muscle and blood vessels, pulmonary hypertension (inflammation of the arteries supplying the lungs), and hemorrhaging. Skin issues include rashes, burning, psoriasis, scleroderma, and photosensitivity. The reproductive tract can experience infertility and disrupted menses. Urinary tract issues include kidney stones. Respiratory tract problems can range from trouble breathing and bleeding from lungs to sinus infections. The nervous system is not exempt either. Neurological problems include tremors, headaches, loss of coordination, depression, and anxiety. Mold toxin sensitivity causes an almost unlimited number of what we call “diseases,” including adrenal disorders, AIDS, atherosclerosis, brain inflammation, cancer, Chronic Fatigue, cirrhosis of the liver, Crohn’s disease, Cushing’s disease (related to abnormally high levels of cortisol

hormone), diabetes, gout, hypoglycemia, muscular dystrophy, osteoarthritis, osteoporosis, and rheumatoid arthritis. The psychological and emotional effects of mold receive names of diseases too: Alzheimer’s, autism, depression, manic-depression, and schizophrenia. It’s incredible to think that all of these can result from mold toxins, but mold toxins are nasty, especially if their wastes remain in the body.

The majority of people with fungal/yeast issues have an overgrowth in the digestive tract. Not all fungal infections, however, are acquired through ingestion. Many people react violently to mold and mildew in the air. Reactions to mold include wheezing and other respiratory problems, nausea, severe itching and rashes, eye irritation, acute headaches, and even impaired mental function.

Mold and mildew grow easily in damp places: outside in stagnant ponds, inside buildings on plumbing pipes behind walls, in damp basements, or wherever a roof leaks. Increasing numbers of lawsuits are being filed against landlords by people in sick buildings (including schools) that are contaminated with mold. *If you live in a sick building, you must eliminate the mold in your environment! Otherwise, you may never get well!*

The presence of fungi indicates an advanced stage of fermentation within the body—the organism is literally molding—so you must pay careful attention to diet. Mold is of course present in alcoholic beverages and cheeses. Many grains—including barley, corn, sorghum, rye, and all wheat products—harbor mold too, along with peanuts and cottonseed (and its oil). Eat mostly fresh vegetables, animal protein, and good fats (coconut and olive oils, and for those who can tolerate it, raw butter). All of the organisms in the fungus kingdom, as with viruses and bacteria, thrive on sugars, even those naturally occurring in fruits. Therefore, until you have sufficiently healed, avoid fruits. Also avoid dense, high-starch carbohydrates such as grains, potatoes, carrots, peas and beans, and perhaps even nuts and seeds (which are hard to digest). Because many people with serious fungal infections develop a cross-sensitivity to yeasted and fermented foods, also avoid mushrooms, soy sauce, vinegar, alcohol, cheese, and bread-like yeasted products. Sauerkraut, even though it consists of cabbage that’s fermented, contains beneficial intestinal flora that feed on the fungi and yeasts.

Fungal infections are tenacious, so I would not rely on frequencies alone. One powerful antifungal and antiviral herb is chaparral (creosote bush), indigenous to the American Southwest and used for centuries by natives for numerous conditions. Another powerful natural remedy is the inner bark from the Brazilian pau d’arco (*Tabebuia avellanedae*) tree. Impervious to rotting in damp climates, it’s highly effective. True cinnamon, found in Ceylon and known as *Cinnamomum zeylanicum* or *Cinnamomum verum*, has antifungal (as well as antiviral and antibacterial) properties.

Take probiotic supplements, especially *Lactobacillus acidophilus* and *Lactobacillus bifidus* (also called *Bifidobacterium bifidus*), which feed on *Candida*. These lactobacilli also curb *Candida* by producing hydrogen peroxide. Sauerkraut, kefir and yogurt contain probiotics (but some people become

worse when they eat even raw fermented dairy). Read *The Yeast Connection* and *Candida: A Twentieth Century Disease*.

There are hundreds of types of fungi, so I have listed only the most common ones below. Run each frequency for at least 3 minutes, longer (5 or 10 minutes) if possible. Whatever fungus you are treating, also use frequencies for *Candida albicans*, which is widespread and is implicated in countless disorders. Some rifiers benefit by sweeping 420–482, for 15 or 20 minutes.

Recently it has become apparent that the divisions between various microorganisms are less distinct than was previously thought. Nevertheless, the conventional labeling systems are still useful. If you do not know whether the microbe belongs in **BACTERIA**, in **CANDIDA**, **FUNGI**, **MOLDS AND YEASTS**, in **PARASITES**, **PROTOZOA AND WORMS**, or in **VIRUSES**, look up its name alphabetically and you will be guided to the appropriate section.

Fermentation in the system generally supports parasites of all kinds, so see **PARASITES, PROTOZOA AND WORMS**. Because *Candida* and other fungi feed on heavy metals, see the heavy metal detoxification entries under **CHEMICAL SENSITIVITY / POISONING**. Also see **BLOOD SUGAR PROBLEMS** and **CANCER**, as fungi are often associated with these conditions. Finally, to deal with any residual brain, emotional, and psychological issues, see applicable frequencies under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

General (if you don't know what you have)

From Pulsed Technologies. Run in this order. Only one minute per frequency is needed on Pulsed Technologies equipment. You may get different results on other units.

Program 1: 35536, 38576, 58656, 58336, 42656, 36960, 36160, 32512, 30144, 59712, 56704, 56320, 55424, 50176, 49536, 49024, 47680, 47552, 46592, 39872, 38016, 37888, 35520, 33536, 32768, 59392, 52992, 47872, 44032, 43136, 41088, 30976, 56832, 40448, 33792, 52672, 52736, 52800, 52864, 52928, 53056, 42368, 43008, 37568, 48448, 56448, 56576, 56768, 35552, 49664, 49600, 36896, 36288, 51328, 50368, 46528, 37248, 59520, 54016, 36864, 40960

Program 2: 20, 72, 132, 158, 222, 242, 254, 321, 331, 333 + 523 + 768 + 786, 344 + 510 + 943, 337, 374, 391, 414, 421, 422, 464, 465, 512, 524, 555, 565, 582, 592, 594, 623, 634, 660 + 690 + 727, 732, 766, 784, 787, 802 + 1550, 822, 923, 933, 982, 743, 744, 745, 774, 784, 823 to 829, 854, 866, 880, 886, 942, 943, 1016, 1130, 1134, 1153, 1155, 1233, 1333, 1351, 1463, 1627, 1711, 1823, 1833, 2222, 2411, 2644, 4442

Mold Toxins

See "Toxins from Mold" in this section.

Actinomyces, all types

They produce hyphae (threadlike projections), so are often mistaken for fungi. See entries under **BACTERIA**.

Aflatoxin

A highly dangerous toxin produced by mold, often found in improperly stored peanuts and peanut butter. Symptoms include swelling, especially in the legs and abdomen, and liver damage. Also see "*Aspergillus flavus*" in this section.

From Dr. John Garvey: 344.

Larger set: 344 + 510 + 943, 474, 476, 568

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz: 177K and 188K

Hz: 438.74 and 466.01

Also from Clark: 9359.97, 8812.31

Alternaria tenuis

A fungus associated with lung ailments.

853 (from Dr. John Garvey), 304

Aspergillus flavus

Mold found on corn, peanuts and grain, which produces aflatoxin. Also see "Aflatoxin" in this section.

1823 (from Dr. Garvey), 364 (from Dr. Loyd), 247, 1972

Aspergillus fumigatus

Grows easily in humidity and warmth, on decomposing soil, and on starchy foods like cereals and seeds. Infects humans and a wide range of animals and plants. Indoors, it thrives on dust, potted plants, ventilation ducts, and kitchens and bathrooms. Causes the fungal infection aspergillosis. Symptoms in the sinuses include pain, headache and runny nose. In the lungs, symptoms include chest pains, difficulty breathing and a bloody cough. Infection can spread to skin, nails, ears, eyes, and (more seriously) the entire bloodstream, leading to organ failure and a complete loss of function. According to Dr. Loyd, this strain causes 90% of aspergillus infections in humans.

From Dr. Richard Loyd: 248

Aspergillus glaucus

Blue mold occurring in some human infectious processes.

524 (from Dr. Garvey), 333 + 523 + 768 + 786, 758, 1823

From Dr. Marty Monahan: 188, 216, 218, 230, 548, 976

Aspergillus niger

Common mold that may cause severe persistent infection.

10 minutes each: 374 (from Dr. Garvey), 697

Aspergillus rhizopus

Common mold that may cause severe persistent infection.

2127.5

Aspergillus terreus

Mold sometimes involved in bronchi and lung infections.

743 (from Dr. John Garvey), 743–745 sweep, 339

Aspergillus, unspecified

37.50, 357.30, 434.25, 563.19, 709.83, 978.05

Aspergillus versicolor

Common in damp indoor environments and on foods. Has a musty odor. Produces a carcinogenic toxin that also damages the liver.

488

Athelia rolfsii

Subtropical plant pathogen, also called “Southern Blight.” Can live on soil for years. Causes sudden wilting and yellowing of leaves. Stems and trunks are afflicted with round pink bumps, and stems near the soil may die.

From Dr. Richard Loyd: 559

Barley Smut

See “*Ustilago nuda* / Barley Smut” in this section.

***Blastomyces dermatitidis* / Blastomycosis**

This *Blastomyces* strain, found in Midwestern and Northern US and Canada in decaying plant material and soil, causes a chronic and invasive lung infection when inhaled, sometimes reaching the bones and skin. The frequency below is close to 1234 Hz, often used for sinus infections.

From Dr. Richard Loyd: 1233

Botrytis cinereas

Fungus that attacks over 200 plants, including tomato, cucumber, lettuce, grape, strawberry and flax, sometimes appearing as a gray mold.

1132 (from Dr. John Garvey), 212, 1545

Candida albicans

A digestive or systemic fungal infection involving the most well-known strain, *Candida albicans*, is commonly and simply called “Candida.” Candida infections cause a wide variety of symptoms: poor digestion (gas, nausea, vomiting, bloating, constipation or diarrhea); cravings for carbohydrates, sweets or alcohol; food allergies and intolerances; weight gain; chronic fatigue; mood swings, depression or anxiety; blurred vision; slurred speech; poor memory and an inability to focus; low libido; migraines; chronic sinus infections; skin rashes, jock itch or nail fungus; menstrual problems; poor motor coordination; shortness of breath, wheezing and other respiratory distress; low thyroid function; and low adrenal function.

Candida albicans usually overgrows first in the intestines, which is why digestive problems are the most common sign of infection. However, the fungus can grow anywhere. In the mucous membrane lining of the mouth, unchecked *Candida* causes a condition known as thrush. In the vagina, the itchy, burning, cheesy discharge it causes is simply referred to as a “Candida infection” or Candidiasis.

As a benign one-celled yeast, *Candida albicans* reproduces through cell division and lives in the intestinal

tract (primarily), vagina, and mouth without harming the host. But when the terrain becomes unbalanced—due to a high-sugar, high-starch diet; infectious illnesses; medications (antibiotics, birth control pills, cortisone); and emotional and physical tension (causing the production of excess stress-inducing cortisone)—*Candida* changes into a more complex fungal (mycelial) form and proliferates. The fungus produces spores and grows hyphae, long root-like stalks that attach to their food source: you!

The changes *Candida* undergoes are usually triggered in the digestive tract. Under optimal conditions, the friendly gut flora *Lactobacillus acidophilus* and *Lactobacillus bifidus* prevent *Candida* from changing form and multiplying. But when those flora decrease in number, *Candida* flourishes and morphs. The fungal stalks puncture the intestinal walls, causing abnormal tears. This damage enables partially digested food to escape the intestine, circulate in the bloodstream, and poison and inflame the tissues—a condition commonly known as leaky gut.

Candida causes additional damage due to the dangerous chemical wastes it excretes. According to Dr. William Crook, at least 79 different toxins are released as byproducts of the fungus’s metabolism. One toxin is alcohol, created when the fungus ferments sugars in the gut or bloodstream. (Alcoholic beverages are created by adding yeast to grain or fruit, upon which it feeds—resulting in the excretion of a highly prized, toxic waste product.) Alcohol breaks down further into acetaldehyde, an even more potent toxin chemically related to formaldehyde, a fluid used to embalm corpses. Acetaldehyde interferes with neurotransmitter pathways, immune response, metabolism, and nervous and endocrine systems. The tendency of acetaldehyde to accumulate in the brain, spinal cord, joints and muscles is what creates such a wide variety of debilitating symptoms. The *Candida* spores and mycotoxins that get dumped into the bloodstream and circulate freely to every tissue, harm us as much as the *Candida* stalks that puncture the gut.

With localized and especially systemic infections, a multifaceted approach is necessary because the fungus can be so difficult to eliminate (see Insert, “Holistic Protocols to Help Eliminate *Candida albicans* and Its Toxins”). The fungus must be killed. Its mycotoxins must be excreted. The leaky gut needs repair. Nutrients must be replenished. And the body’s vitality must be restored. *Candida* also feeds on mercury, so check for heavy metals and remove them. See **CHEMICAL SENSITIVITY / POISONING** for details.

In addition to taking supplements that disable *Candida* and neutralize its toxins, eat food that nourishes you and not the fungus. This means a diet moderate in animal protein, high in non-starchy vegetables, and moderate in good fats. Don’t eat grains or fruits, at least for the first several months. Some people can handle nuts and seeds, but in moderation.

Important *Candida albicans* research was conducted in Romania under the auspices of Jimmie Holman and Paul Dorneanu. They found that 464, a number commonly

Holistic Protocols to Help Eliminate *Candida albicans* and Its Toxins

Attack Pathogens Directly and Support Immunity.

- ◆ **Frequencies.** In 2008, lab technicians in Romania, under the direction of Jimmie Holman and Paul Dorneanu, cultured *Candida albicans* in Petri dishes and bombarded the fungus with dozens of frequencies. Chapter 5 lists the pathogen-killing frequencies (most in the 50 KHz range and higher) in descending order from “excellent” to “very good,” according to the percentage of *Candida* killed from one exposure. Keep in mind that Holman and Dorneanu used equipment from Pulsed Technologies. If your unit cannot transmit very high MORs, Jeff Sutherland advises using square waves, which produce the widest range of harmonics, and setting the unit for a 10% duty cycle.
- ◆ **Colloidal Silver (CS).** Silver is well known for its ability to destroy microorganisms and restore immune function. To eliminate *Candida* in the digestive tract, drink CS on an empty stomach so it can travel straight to the large intestine where *Candida* resides. If you experience too much discomfort due to microbial die-off, you may have to begin with a teaspoon or less and gradually increase the amount. (Some people, though, can drink a glass of CS or more at one time.) Because CS can kill beneficial bacteria as well as pathogens, take the CS in the morning and afternoon, and replenish the gut flora at night with probiotics (see next column). If you plan to take lots of colloidal silver, buy a CS maker. (See Chapter 3, **Colloidal Silver** for details on silver, and Appendix A for generator sources.)
- ◆ **Ozone.** Ozone supports immune function and kills pathogenic microbes without harming healthy tissue or beneficial flora. You can drink ozonated water, take ozone saunas, or insufflate. (See Chapter 3, **Oxygen Therapies**.)
- ◆ **Probiotics (Friendly Flora).** *Lactobacillus acidophilus* and *Lactobacillus bifidus* eat *Candida*.
- ◆ **Herbs and Essential Oils (EOs).** Antifungal herbs include chaparral, pau d’arco, clove, tea tree, olive leaf, and oregano. Olive leaf, *Boswellia serrata*, and chaparral are anti-inflammatory. Essential oils taken internally should be labeled as food or therapeutic grade. Dilute them in an edible “carrier” oil such as olive, coconut, or sesame. Take them in safe amounts; read *Essential Oil Safety* by Tisserand.
- ◆ **Grapefruit Seed Extract.** Potent, effective antiviral, antibacterial, and antifungal. The only chemical-free brand is NutriBiotic®. Follow directions on bottle.

Neutralize Toxins and Provide Nutritional Support.

- ◆ **Pantothenic Acid (Vitamin B5).** Among other functions, neutralizes the alcohol-rich *Candida* toxins. Take 450 mg daily, at one time.
- ◆ **Biotin (Vitamin B7).** Helps the body metabolize proteins, fats and carbohydrates; controls blood sugar levels; and prevents *Candida* yeast from changing into its fungal form. Take 1000 mcg (1 mg) 3–4 times a day. Amounts may need to be increased, based on individual need. Consult your doctor.
- ◆ **Probiotics: *Lactobacillus bifidus* (*Bifidobacterium bifidus*) and especially *Lactobacillus acidophilus*.** These friendly flora feed on *Candida* and further suppress it by excreting hydrogen peroxide (see Chapter 3, **Oxygen Therapies**). They also produce biotin, in whose presence the *Candida* yeast cannot transform into a fungus (see above). Until the fungus is under control, take double the amount listed on the label, or 1 gm daily. After that, take 500 mg daily.
- ◆ **Probiotic: *Saccharomyces boulardii*.** This anti-inflammatory tropical yeast competes with *Candida* for space in the intestinal tract (and wins), but leaves the system once supplementation stops. It secretes proteases (protein-digesting enzymes) which reduce the output of cytokines (inflammatory chemicals) that the host produces in response to the *Candida*. *Saccharomyces boulardii* also secretes *capric acid*, which inhibits the formation of hyphae (as well as biofilm somewhat)—thus deterring *Candida* from adhering to and puncturing the intestinal lining. However, with a very leaky gut, even friendly flora can invade the bloodstream and cause damage, as they belong in the gut and not the blood. Richard Loyd reports this occurring with *Saccharomyces boulardii*.
- ◆ **Activated Charcoal.** This porous powder attracts and traps many poisons and toxins, including the acetaldehyde wastes from *Candida*. AC is completely safe, but take it with water to prevent dehydration and constipation. The usual amount is 1 teaspoon with every 8 ounces of water, followed by 8 ounces more. For details, see Chapter 3, **Detoxification**.
- ◆ **Magnesium.** Assists in the intercellular transport of nutrients. Most people are deficient in this mineral.
- ◆ **Molybdenum.** This trace mineral is used in the detoxification of acetaldehyde, a potent mycotoxin excreted by *Candida*. Stubborn cases may require 100 mcg (one-tenth of a mg) three times daily until acetaldehyde poisoning symptoms subside.
- ◆ **Acetaldehyde Detox (by rifting): 3103032.511 Hz**

found on Rife frequency lists, is a subharmonic of *Candida*'s Mortal Oscillatory Rate. Just a 3-minute exposure to 464 (on their own equipment) retarded *Candida* growth by about 20%. The actual MORs (below), if your unit can reach that high a range, are ideal. (Holman and Dorneanu also identified another *Candida* strain similar to *albicans*, detected only by a complex, expensive test. Although its frequencies may be different from those of *Candida albicans*, treating for the *albicans* strain might still benefit.)

Pulsed Technologies's lab-tested killing frequencies are powerful; so run half of them on days 1, 3, 5, 7, etc., and the other half on days 2, 4, 6, 8, etc. *Begin with brief sessions if you're heavily infected*, because your body may not be able to quickly enough detoxify the acetaldehyde that's released by the *Candida*.

Also try **PARASITES, PROTOZOA AND WORMS**, "General (unspecified)" and "*Ascaris lumbricoides* / Roundworm," as *Ascaris* and *Candida* often co-exist.

From Jimmie Holman. Deliver frequencies in precisely the order written. Note that they might not work on units other than those manufactured by Pulsed Technologies:

Excellent to good results, in descending order: 23485, 51155, 51156, 53940, 58914, 58916, 88740, 23484, 31724, 31725, 33060, 46980, 50460, 54404, 54405, 55250, 57420, 99180, 22620, 29580, 55251, 60900, 64380, 67860, 78300

Organ support (from Jimmie Holman), immediately before or after the above numbers: 23958, 24354, 28251, 29766, 32121, 32670, 36735, 38281, 44506, 44583, 45549, 45738, 54531, 56133, 56376, 57519, 58806, 63336, 67977, 71874, 84942, 86394, 87K, 89298

For units unable to reach the higher ranges: 414 (from Dr. John Garvey), 412, 464, 866

From Dr. Richard Loyd: 574, 386K, 3088K

From Dr. Hulda Clark: 19217.81, 956.80

Also try: 23485 and 8146. Sweep: 12006.25–12137.5

Candida auris

Discovered in 2009 but difficult to identify with standard lab equipment, this fungus is resistant to antifungal drugs. It is becoming a health threat in hospitals and nursing homes where people already have other serious health issues, are receiving lots of antibiotics, and are hooked up to feeding tubes, catheters, or other types of tubes. Symptoms include fever, chills, infections and wounds in many other parts of the body, and even death.

From Dr. Richard Loyd: 563, 574, 888

Candida carcinomas

A malignant tumor encased in connective tissue accompanied by *Candida*. In addition to the frequencies below, see "*Candida albicans*" in this section, and follow the protocol carefully to eliminate both the fungus and its mycotoxins.

465, 2167, 2182

Candida glabrata

Present in the immune compromised, it easily develops resistance to antifungal drugs. Causes infections in people with feeding and other tubes, poor kidney function, and those who have had surgery and received other drugs.

595

Candida krusei

Occurs fairly often in urinary tract and other infections, including in the brain.

From Dr. Richard Loyd: 698

Candida parapsilosis

Causes sepsis, a potentially life-threatening condition that occurs during an infection. The body releases an abnormally high level of inflammatory chemicals into the bloodstream. This yeast also infects the digestive tract.

From Dr. Richard Loyd: 634

Candida robusta

Very rare, but observed in pregnant women. Causes vaginal itching and discharge. Other *Candida* strains have been reported to cause miscarriage. Antibiotics can interfere with the microbiome of the fetus and contribute to nervous system damage, leading to ADHD and autism; so be careful about taking pharmaceuticals while pregnant.

468

Candida rugosa

Another newly discovered fungus. Because it's resistant to antifungal drugs, one might surmise that (as with many of the previous *Candida* entries here) it has emerged as a result of too many pharmaceutical drugs, administered to too many people and too often, for the common *Candida albicans*. Fortunately, we have holistic alternatives.

588

Candida tropicalis

Implicated in Crohn's disease, inflammation of the bowel. 1403 (from Dr. John Garvey), 675, 709, 2182, 2184

Cladosporium fulvum

A fungus that causes raised, irregular nodules of soft tissue that can be slow to heal.

233, 344 + 510 + 943, 438 (from Dr. John Garvey), 776

***Claviceps purpurea* / Ergot**

Found in contaminated wheat, oats, rye, triticale, barley, and other grasses and grains, it causes ergot in humans and animals, especially cattle. Symptoms include vomiting, diarrhea, abdominal and muscular pain, headache, muscle tremors, psychotic behavior, convulsions, and coma.

660 + 690 + 727

From Dr. Hulda Clark: 295K or 731.23 (for units unable to reach the KHz range), and 14687.19

***Coddidioides immitis* / Valley Fever /
Coccidioidomycosis / Coccidiosis**

The seeds and spores from *Coddidioides immitis*—a fungus-like mildew living in warm-climate soil—are spread by the wind after the earth is dug. Those living in the US Southwest are most affected as new homes and roads are constantly being built that disrupt the soil. Infection commonly reaches the lungs, causing flu and pneumonia. Sometimes the disease is fatal, when the spores spread through the bloodstream to the membranes surrounding the brain, causing meningitis. Valley Fever cannot be caught from people. After one exposure, immunity may develop. The following frequencies are from Michael Tigchelaar: 80K (for 40 minutes), 336 and 337 (for 5 minutes each)

Collectotrichum

Pathogenic fungi in tropical and sub-tropical regions. It causes diseases in cereals, legumes, vegetables and fruits, including mango, coffee, avocado, and yam.

1482

Corn Smut

See “*Ustilago maydis* / Corn Smut” in this section.

Cytochalasin B

A mycotoxin that penetrates cell membranes and inhibits cellular processes. Used by chemists and researchers.

77K, 91K

***Cryptococcus neoformans* / *Cryptococcus gatti* /
Meningoencephalitis**

This yeast causes respiratory infections, sometimes entering the brain and causing meningoencephalitis infection. Symptoms include headache, nausea, staggering gait, irritability, confusion, and blurred vision.

588, 636 (both from Dr. Richard Loyd), 367, 428, 444 + 1865, 476, 478, 522, 579, 594, 597, 613, 624, 785, 792, 872, 1211, 5880, 5884

Dematium nigrum

Soil fungus found in wounds, often appearing as an infected patch of skin.

243 (from Dr. John Garvey), 738

Epicoccum

Mold found in air, soil and foods, sometimes animals and textiles. Causes spots in various plants.

From Dr. John Garvey: 734

***Epidermophyton floccosum* / Athlete's Foot / Jock Itch**

Epidermophyton floccosum attacks skin, nails and feet (where it's called athlete's foot), and the groin (where it's called jock itch). Fungi that attack skin are often interchangeable and do not confine themselves to one area; so also see the *Trichophyton*, *Microsporon* and *Microsporum* (and additionally *Candida albicans*, for jock itch) in this section.

644, 766 (both from Dr. John Garvey), 856 (from Dr. Richard Loyd), 20, 345, 465, 634, 660 + 690 + 727, 784, 802 + 1550, 880

Ergot

See “*Claviceps purpurea* / Ergot” in this section.

Fungus flora

Some from Dr. Garvey: 331, 336, 555, 587, 632, 688, 757, 882, 884, 887

Funneliformis mosseae

Discovered by Fry Labs of Scottsdale, Arizona, US, this pathogen is found in 81% of mosquitoes in Arizona. It infects red blood cells, and can cause severe iron deficiency anemia. The mature form produces copious amounts of thick biofilms in a short period, and is reported to live on dietary fats. Symptoms include capillary inflammation and reduced blood flow, which can lead to other infections.

The biofilms can harbor many pathogens, so address other microbial infections too. *Mimosa pudica* (“sensitive plant”) has been found to eradicate this parasite.

From Dr. Richard Loyd: 514, 515, 516, 517, 518, 519, 520, 521, 1260, 1583, 1705

Fusarium oxysporum

Fungus causing inflammation of the cornea of the eye.

102, 332, 705, 780, 795

Also try: 600 + 625 + 650, 746, 768

Geotrichum candidum

Fungus found in feces and dairy products that causes symptoms similar to those of *Candida albicans*.

350, 355, 384, 386, 403, 404, 407, 409, 410, 412, 415, 418, 543, 544, 687, 700, 737, 987, 988

***Gliocladium* / Brain Fungus**

855 (from Dr. John Garvey), 469, 633

***Histoplasma* / Histoplasmosis**

A fungus found mainly in tropical countries bird and bat droppings, causing infections in the lungs and elsewhere.

424, 616, 749

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 293300 (lowest), 302K (optimal), and 304350 (highest)

Hz set: 727.02 (lowest), 748.58 (optimal), and 754.41 (highest)

Also from Clark: 15035.69

Hormodendrum

Airborne, causes respiratory problems and allergies.

695 (from Dr. John Garvey), 532, 627, 663, 678

Mold and Lyme Toxins, and the Inflammation Response

A Common Problem. Mold toxins are one of the reasons that there are so many mysterious conditions that baffle the medical community. An understanding of this material can easily double the effectiveness of any practitioner who is not already helping their clients to remove mold toxins from their bodies and environments. Mold toxins, the most common of the biotoxins, are neurotoxins (toxic to nerves). They are also responsible for many (or most) of the symptoms in people with Lyme.

Where Mold Is Found. After studying thousands of homes, Harvard University researchers found that 50% of them had enough mold toxins in them to cause symptoms, even though most had no obvious water damage and little or no mold was actually visible. About half of the people in the United States are living in homes that contain enough mold toxins to cause illness. They are given the name "Sick Building Syndrome." Buildings with flat roofs, and those on a concrete slab or with a concrete basement, are ready-made for mold problems. Flat roofs leak, and concrete whisks small amounts of water up into the walls. Any natural fibers, such as wood cellulose or sheetrock paper, that are exposed to moisture or water vapor, will start to make mold spores. There may not be enough mold to damage the building, but there is certainly enough to cause serious illness. Attached garages are also problematic.

Almost all cars have enough mold to make people sick—even cars that are only a few weeks old. We drive them in the rain, open the doors in the rain, and open the trunk in the rain. If your car has been driven in the rain, it is almost certainly moldy. A car or building does not have to smell musty or have visible mold to be contaminated. A musty smell is an indication that mold levels are very high, although not everyone is able to smell mold.

Mold toxins are also found in foods such as grains and peanuts, although far more serious are the mold toxins in buildings and vehicles with water leaks. The major molds likely to start colonies are *Stachybotrys*, *Aspergillus*, *Acremonium*, *Actinomyces*, *Penicillium* and *Chaetomium*. The colonies may be visible, or hidden in places such as the tops of ceiling tiles or the bottoms of carpets. The molds send out spores, which contain powerful biotoxins that affect the nerves (neurotoxins).

The Body's Mold Detection Mechanism. When these spores with their neurotoxins are inhaled, about 75% of the population can make antibodies to the toxins and quickly eliminate them. They may sneeze, have a sore throat or have other minor symptoms, but symptoms are temporary. If they spend several days in a moldy building, they may begin to feel sick, but when they are away for a few days they recover. Their bodies are like a plastic bucket that has poison drip into it from time to

time: they have a small hole in the bottom of the bucket, so the poison is able to leak out.

The problem is, about 25% of the population have a genetic makeup that's the equivalent of not having a hole at the bottom of the bucket. They don't produce antibodies for mold toxins, meaning the body cannot tag the toxins as invaders or eliminate them. Although the liver does recognize mold toxins and dumps them into the bile to be excreted via the digestive tract, the job of making antibodies to mold is done by the immune cells, not the liver. So people unable to detox from mold have immune issues that liver support cannot fix.

Bile is recycled in the body. So unless a binding agent (activated charcoal or zeolite) is used in the digestive tract, mold toxins are quickly reabsorbed back into the blood, and they accumulate with continual or repeated exposures. Around 25 million Americans have some degree of mold toxin illness, though it might be called MS, Parkinson's, chronic fatigue, fibromyalgia, rheumatoid arthritis, and so on.

The Many Symptoms of Mold Illness. These mold toxins cause chronic inflammation, with almost too many symptoms to list. They include fatigue, severe pain, brain fog, out of control weight gain, blood sugar problems, nerve damage, cancer, reduced circulation, autoimmune diseases, symptoms that resemble advanced heart disease, and even loss of sex drive. Some people feel as though they have a permanent case of the flu.

About 10 million American children are being exposed to mold toxins (many are medicated with Ritalin as a result), and around 25 million Americans have some level of mold toxin illness. Many cannot detoxify either mold or Lyme toxins; so if they have Lyme disease, Lyme toxins also build up in the body. These are the people that get very sick and stay sick when they do frequency treatments for Lyme. *For those who get major prolonged die-off reactions, frequency treatments for Lyme, or any other protocols that target the Lyme, are not recommended until the toxin issue is addressed.*

The Biochemistry of Mold Illness. Mold and Lyme toxins attach to fat cells, causing them to continually release inflammatory cytokines. When one has the flu, symptoms are not caused directly by the viruses; they are caused by the resulting cytokines. So, mold and Lyme toxins can cause symptoms similar to a permanent case of flu.

Inflammation is useful to help deal with an infection. But it's damaging when it continues indefinitely. The mold and Lyme toxins cause the fat cells to make a material called NF-kappaB. NF-kappaB causes the release of all kinds of inflammatory chemicals, which have great adverse effects—as mentioned above—if they are produced over a long period of time.

Likewise, some of these inflammatory chemicals cause increases in NF-kappaB! An analogy is when you turn up an amplification system too high and get feedback from the microphone and speaker, resulting in a very loud, unpleasant squeal. Similarly, the body can get stuck in a feedback loop where NF-kappaB increases inflammatory chemicals, which increase NF-kappaB, which increases inflammatory chemicals, and so on.

Cytokines cause the release of an enzyme called MMP9 (matrix metalloproteinase 9) that causes severe nerve pain. Excess cytokines are related to autoimmune problems. And cytokines reduce circulation in small blood vessels, decreasing the levels of oxygen and nutrients that can get into the cells. This acts similarly to advanced heart disease. Any exercise can result in a crash that lasts for days.

People harboring mold and Lyme toxins can make antibodies to myelin, with resulting nerve damage (which is why people with Multiple Sclerosis should be checked for mold and Lyme toxins). They may also make antibodies to a cardiolipin (a component of the mitochondrial membrane), which causes blood to sludge, thereby causing hands and feet to get cold. They often make antibodies to gliadin, a protein found in gluten, resulting in an inability to tolerate glutinous grains (wheat, rye, barley). A diet high in sugar and in the starch amylose (wheat, rye, oats, barley, rice, root vegetables, and bananas) causes rapid blood sugar and insulin spikes.

These inflammatory chemicals pass the blood-brain barrier and block various receptor sites. When the leptin receptor sites are blocked, leptin levels increase, causing leptin resistance. Leptin is the hormone involved in fat regulation; so excess leptin packs fat into fat cells, where it remains until the toxins are removed. People with high leptin levels can gain weight eating 1,000 calories a day.

Ordinarily, the pituitary gland produces MSH, or melanocyte-stimulating hormones. But when leptin receptors are blocked, the production of MSH is also blocked. Once MSH is low, the pituitary will produce little or no melatonin, resulting in sleep problems. Endorphins will also be low, causing excess chronic pain. Low MSH also means a loss of control of other hormones. If cortisol is low, treatment should be to remove the neurotoxins. Supplementing with cortisol or steroid drugs is not a solution while biotoxins levels are high, as this will depress production of ACTH (adrenocorticotropic hormone) by the pituitary. Not only will the person's health become much worse, but there may be serious, permanent injury. Finally, low MSH can result in low androgens in both men and women. If androgens are low, symptoms will be much worse. This may be why most people with chronic fatigue are women.

Anti-diuretic hormone production by the pituitary is often disrupted, resulting in excess urination even to the point of dehydration, with excess thirst and excess salt in the blood. There may also be a layer of salt on the skin, making the person a good conductor of electricity. This is why many patients have problems with static electricity shocks. They also may damage electronic equipment by touching it.

People who are low in MSH often have leaky gut, which lets in gliadin, which causes more inflammation and further reduces MSH, which causes more leaky gut, which lets in more gliadin. Often, what is diagnosed as Irritable Bowel Syndrome or Crohn's disease is a response to toxins from mold and Lyme. Furthermore, 80% of people low in MSH also have colonization in their sinuses by a variety of bacteria called "multiply antibiotic-resistant coagulase negative *staph.*" In most people, this organism is fairly benign. But in those with low MSH, this organism must be taken care of before they can feel good. A sinus wash of colloidal silver can help.

Therapies for Mold and Lyme Toxins. Ritchie Shoemaker, MD, recommends a diet low in starch. To bind the toxins in the gut and escort them out, he suggests the prescription drug Cholestyramine. However, I have observed that in most people, Cholestyramine causes digestive problems, including bloating and constipation. So instead, I use a plant sterol product called Cholestepure. People take 2 capsules three times a day, with few or no negative effects and very good results. Additional substances for biotoxin removal include peach tree extract and thuja, taken for one to two months. We also offer our own herbal formulas.

An ionic foot detox bath, where the feet are in separate tubs, is highly effective and works quickly. [See Appendix H for plans to make one for about ten dollars.] At least one type of Japanese foot detox patch, which contains herbs and is worn on the foot at night, works very well with no apparent adverse effects. We are seeing amazing improvements in as little as one week.

About 1% to 2% of the population does not get adequate improvement just by reducing mold and Lyme toxins. To lower inflammatory cytokines, leptin and MMP9, and to reduce inflammation, we have used a number of products such as Metagenics UltraInflamX, Kaprex and Kaprex AI, Biotics KappArest, and our own herbal formulas. The supplements with "kap" in their names inhibit NF-kappaB. Homeopathics for mold and Lyme could also help. If the molds are causing additional infection, anti-bacterial, anti-viral and anti-fungal herbs can be used, along with a supplement of many strains of beneficial intestinal flora.

Make sure to avoid moldy places and moldy foods.

—adapted from Richard Loyd, PhD, 2007 and 2014
royalrife.com/mold_toxins.pdf

See the Antimicrobial Essential Oil Blend Recipe on page 693.

Malassezia furfur / Microsporon furfur / Tinea Versicolor

Both *Malassezia furfur* and *Microsporon furfur* cause Tinea Versicolor, a skin condition usually appearing on the front of the chest. Symptoms include scaling, reddish or gray itchy patches, and dry brittle hair. The frequencies for Tinea Versicolor are not separated according to microbe. Also see the various *Trichophyton*, *Microsporum*, and *Microsporon* entries, all in this section.

222, 225, 491, 616, 700

Microsporon audouini / Ringworm

The common fungus *Microsporon audouini* causes Ringworm. Symptoms are itching, pain, and roundish red rings and flaking on the skin and scalp. Also see “*Malassezia furfur* / *Microsporon furfur* / Tinea Versicolor” and the various *Trichophyton*, *Microsporum*, and other *Microsporon* entries in this section.

From Jimmie Holman of Pulsed Technologies. Deliver frequencies in precisely the order written. He advises that they might not work on non-Pulsed Technologies units:

90K, 83840, 83375, 81920, 81290, 74062.5, 68K, 65875, 65625, 62845, 61638.75, 59562.5, 57500, 52480, 51465, 51200, 48K, 47600, 47410.63, 46812.5, 45K, 41920, 41687.5, 40960, 40645, 37031.25, 34K, 32937.5, 32812.5, 31422.5, 30819.38, 29781.25, 28750, 26240, 25732.5, 25600, 24K, 23800, 23705.31, 23406.25

Short set: 422, 831, 1222 (all from Dr. Garvey), 285

Microsporum canis / Ringworm in Humans and Dogs

Another common fungus in dogs, cats and humans that causes Ringworm. Symptoms are itching, pain, and roundish red rings and flaking on the skin and scalp. Also see “*Malassezia furfur* / *Microsporon furfur* / Tinea Versicolor” and the various *Trichophyton*, *Microsporum*, and other *Microsporon* entries in this section.

1644 (from Dr. Garvey), 347, 402, 600 + 625 + 650, 970

Microsporum, other types

Also see “*Malassezia furfur* / *Microsporon furfur* / Tinea Versicolor” and the various *Trichophyton*, *Microsporum*, and other *Microsporon* entries in this section.

158, 222, 242, 391, 512, 523, 565, 592, 594, 623, 745, 774, 933, 1016, 1130, 1155, 1333, 1463, 1627, 1833, 4442

Mold, Unspecified (from Dr. John Garvey)

222, 333, 421, 822, 1233, 1351, 1711, 1832

Monilia

See “*Candida albicans*” in this section.

Mucor mucedo

A mold that causes rot in fruit and baked goods and is sometimes found on the feet and skin.

612 (from Dr. John Garvey), 488, 735, 766, 1K, 9788

From Hulda Clark: 288K or 713.88 (for units unable to reach the KHz range)

Mucor plumbeus

Similar to *Mucor mucedo* and *Mucor racemosus fresen*.

361, 578, 785, 877

Mucor racemosus fresen

Grows on decaying vegetation and bread, and can cause ear infections. According to Dr. Guenther Enderlein, it's implicated in most, if not all, coronary conditions.

First try: 474 (from Dr. John Garvey), 310, 875

Also try: 473, 686, 713, 729, 731, 751, 760, 778, 871, 873, 876, 878, 887, 1200, 7768, 7976, 8788

Mucormycosis / Zygomycosis

A serious fungal infection often associated with uncontrolled diabetes or immuno-suppressive drugs. See the other *Mucor* frequencies in this section. Also see **BLOOD SUGAR PROBLEMS**.

942 (from Dr. John Garvey), 623, 733

Neurospora sitophila

A “pink mold” fungus that can provoke allergic reactions.

705, 878

Nigrospora

Fungus involved in lung, sinus, TB infections, and allergies.

302, 350, 764

Nocardia asteroides / Nocardiosis

Transmitted mainly through soil. Symptoms include lung abscesses, fever and cough that can last several months, heart damage, and brain lesions leading to meningitis.

228, 231, 237, 694, 719, 794, 887, 2890

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 354950 (lowest), 355100 (optimal), and 355350 (highest)

Hz set: 879.83 (lowest), 880.20 (optimal), and 880.82 (highest)

Also from Clark: 17679.39

Oat Smut

See “*Ustilago avenae* / Oat Smut” in this section.

Oospora / Powdery Mildew

Often appears on cultivated and wild grasses. It harms rice and potato crops; unknown if it harms humans.

5346, 9599

Puccinia graminis / (Wheat) Stem Rust / Black Rust

Destructive fungus that causes tissue damage in wheat.

643

Rhizopus nigricans* / *Rhizopus stolonifer

Common bread mold/fungus that lives on decaying fruit and in soil, sometimes infects humans and other mammals, and is used in the manufacture of cortisone. 132 (from Dr. Garvey), 327, 659, 660 + 690 + 727, 775

Ringworm

See “*Microsporon audouini* / Ringworm” in this section.

***Rhodotorula mucilaginosa* (formerly *rubra*)**

Yeast causing mostly eye infections in humans and animals. 674, 598, 778 (all from Dr. Loyd), 833 (from Dr. Garvey)

Slime Molds

Agylla: 81K *Lycogala*: 126K *Stemonius*: 211K

Sorghum Smut

See “*Sporisorium sorghi* / Sorghum Smut” in this section.

***Sporisorium sorghi* / Sorghum Smut**

294

Sporobolomyces

Fungus in humans, mammals, birds, soil and plants, causing allergies, respiratory infections, and dermatitis. 700, 753

Sporotrichum pruinosum

A common fungus that causes allergies, especially in those with chemical sensitivity. 584, 598, 687, 715, 755

Stachybotrys chartarum

Among the most toxic of all fungi. Symptoms include irritation, pain and inflammation of the mucous membranes in the nose, mouth and throat; cough; bloody nasal discharge; burning in eyes; skin rash; impaired immunity; headache; fatigue; hemorrhage; nervous disorders; shock; and even death.

Stachybotrys can grow indoors in the kitchen, bathroom, basement and other damp areas, causing “sick building syndrome.” Houses without basements are susceptible, as cement foundations are rarely sealed, and moisture can seep from the ground through the first floor. Warmth, dryness, and good ventilation prevent mold. If you see black mold spreading, the walls may need to be replaced. Bleach is often used on buildings, but it is not a good choice because its alkalinity helps pathogens regrow and bleach is toxic to humans and animals.

Conventional medicine uses antifungal drugs to eliminate infections in humans and animals, but essential oils work better and are much safer (see Sidebar, “Antimicrobial Essential Oil Recipe”). Both ozone and chlorine dioxide (sold as the product “MMS”) are effective for personal detox as well as for building purification (see Chapter 3, **Oxygen Therapies**).

Antimicrobial Essential Oil Recipe

An astoundingly large number of essential oils (EOs) have potent antifungal (as well as antibacterial and antiviral) properties. The ones below do a great job of eliminating mold spores in an indoor space (plus, they have a pleasing and uplifting scent). Diffuse all of them together for about three days in an ultrasonic aromatherapy diffuser, which doesn’t use heat. (Heat destroys the delicate compounds in the oils.) Repeat if necessary. People have reported, and scientific studies confirm, that these oils completely kill mold. You’ll still see the outlines of the molds on the surfaces where they were growing, but the molds will not be active.

These oils can usually be safely inhaled, reducing or eliminating respiratory infections, coughing, and wheezing after brief inhalation periods.

The first five EOs below are in a popular commercial blend. However, you can make your own formula much more economically by buying the individual oils and mixing them yourself. Amounts are approximate.

- ◆ **Clove Bud** (*Syzygium aromaticum*): 200 drops
- ◆ **Lemon** (*Citrus limon*): 200 drops
- ◆ **Cinnamon Bark** (*Cinnamomum verum*): 150 drops
- ◆ **Eucalyptus** (*Eucalyptus radiata*): 100 drops
- ◆ **Rosemary** (*Rosemarinus officinalis*): 50 drops
- ◆ **Optional: Oregano** (*Origanum vulgare*), **Tea Tree** (*Melaleuca alternifolia*), **Thyme** (*Thymus vulgaris*): 50 drops of each oil you want to include

Experimental: 540.1, 577.9, 604.4, 747.4, 764.5, 765.6, 844.0, 922.2, 952.4, 969.6

Sterigmatocystin

A toxic metabolite related to aflatoxins. 88K, 96K, 133K, 126K

Stemphylium

Fungus that lives in soil and decaying plant material and is a well-known allergen. 461 (from Dr. John Garvey), 114, 340

Thrush

Ulcerous white patches in the mouth caused by *Candida albicans*, often accompanied by fever and gastrointestinal disturbance. Also see other entries in this section. 414, 464, 465, 660 + 690 + 727, 787, 880

***Tinea unguium* / Onychomycosis**

Tinea unguium causes Onychomycosis, the most common finger and toenail infection. (Toenails may also harbor *Tinea interdigitale*.) Infection begins at the free end of the nail, gradually spreading to the entire nail which loses its

luster and becomes brittle and opaque. Soak the nail in castor oil to help eliminate the infection.

From Dr. James Bare: 5042 (sweep 9 Hz on either side of the main signal), 8111, 12800

Torulopsis glabrata

A yeast sometimes appearing in vaginal infections. Also see “*Cryptococcus neoformans*” and other fungal forms in this section.

From Dr. John Garvey: 522, 2121

Toxins from Mold

In about 25% of the population, the immune cells cannot recognize or tag the toxins. So the body cannot excrete them. Even if molds and fungi are killed, their waste products remain in the body, impeding its function and preventing other conditions from healing. If you suffer greatly from exposure to mold and mildew, you’ll need “Holistic Support to Help Eliminate *Candida albicans* and Its Toxins” (see Insert, page 687). Also see Appendix H, “Create a Detox Footbath for Ten Dollars.”

Acetaldehyde (excreted by *Candida albicans*): 3103032.511 40K (for as long as desired; helps revitalize cells)

Trichoderma viride

A mold found in tropical countries.

711

Trichophyton mentagrophytes

Usually attacks the feet, skin and nails, causing itching, inflammation, sometimes burning, and skin flaking. Fungi that attack the skin can be interchangeable and don’t necessarily confine themselves to one area. Also see *Microsporon*, *Microsporum*, other *Trichophyton* entries, and “General Fungus / Molds / Yeasts” in this section.

311 (from Dr. John Garvey), 414

Trichophyton rubrum

On the feet, nails and groin (rarely the scalp), causing itching and scaling. Fungi that attack the skin can be interchangeable and don’t necessarily confine themselves to one area. Also see *Microsporon*, *Microsporum*, other *Trichophyton* entries, and “General Fungus / Molds / Yeasts” in this section.

From Dr. John Garvey: 752, 923

Trichophyton tonsurans

Grows on scalp, body and sometimes nails, causing itching and scaling. The fungi that attack the skin can be interchangeable and don’t necessarily confine themselves to one area. Also see *Microsporon*, *Microsporum*, other *Trichophyton* entries, and “General Fungus / Molds / Yeasts” in this section.

765 (from Dr. John Garvey), 454

***Trichophyton* (unspecified)**

Fungi that attack the skin can be interchangeable and don’t always stay in one area. Also see *Microsporon* entries, *Microsporum* entries, other *Trichophyton* entries, and “General Fungus / Molds / Yeasts” in this section.

First try: 132, 812, 2422, 9493 (all from Dr. John Garvey), 133, 381, 585, 593, 725, 808

Also try: 142, 373, 376, 378, 385, 387, 420, 425, 428, 576, 578, 580, 581, 583, 584, 587, 588, 592, 595, 597, 644, 724, 726, 732, 733, 738, 748, 750, 765, 766, 771, 777, 778, 779, 794, 797, 801, 805, 809, 817, 886, 1256, 6887, 7688, 7697, 7885, (from a Belgian researcher) 906

Tropical *Candida*

See “*Candida Tropicalis*” in this section.

***Ustilago avenae* / Oat Smut**

Causes rotting in oat plants.

806

***Ustilago maydis* / Corn Smut**

Causes rotting in corn plants, primarily in sweet corn.

From Dr. John Garvey: 546

***Ustilago nuda* / Barley Smut**

Causes rotting in barley plants.

From Dr. John Garvey: 377

***Ustilago tritici* / Wheat Smut**

Causes rotting in wheat plants. Has an odor of dead fish.

156, 375, 10163

Wheat Smut

See “*Ustilago tritici* / Wheat Smut” in this section.

Wheat Stem Rust

See “*Puccinia graminis* / Wheat Stem Rust / Stem Rust / Black Rust” in this section.

Yeast, Baker’s

775 (from Dr. John Garvey), 843

Yeast, Cervical and Vaginal, unspecified

Also try “*Candida albicans*,” “*Epidermophyton floccinum* / Athlete’s Foot / Jock Itch,” and other entries in this section.

72, 422, 582, 706, 771, 787, 788, 1016, 2222

Yeast, Other (unspecified)

254, 72, 422, 582, 1016, 1130 to 1134, 1153 to 1155, 2222

Zearalenone

Causes excess estrogen in humans and animals.

100K

End of *Candida*, *Fungi*, *Molds* and *Yeasts* section.

CANINE PARVO VIRUSES, ALL TYPES

See “Parvo Virus” entries under **VIRUSES**.

CANKER SORES

See under **DENTAL**, *Mouth and Gums*.

CAPILLARIES, CONGESTION AND TO STIMULATE HEALING OF

See “Capillaries, to Stimulate Healing of” under **HEART, BLOOD AND CIRCULATION**.

CARBUNCLE

Inflammation of skin accompanied by pus (dead white blood cells in tissue liquefied by microbes). See **BACTERIA**, “*Staphylococcus pyogenes aureus*” and **SKIN**, “Boil.” Also see **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*Candida albicans*,” because people with *Candida* often have boils and carbuncles.

CARCINOMA

See under **CANCER**.

CARDIAC EDEMA

See “Congestive Heart Failure / Cardiac Edema” under **HEART, BLOOD AND CIRCULATION**.

CARPAL TUNNEL SYNDROME

See under **INJURIES** or **MUSCLES**.

CARTILAGE PRESERVATION AND HEALING

Dr. Richard Loyd determined the following pathogens that eat or damage cartilage. Under **BACTERIA**, see: “*Actinomyces israelii* / Actinomycosis,” “*Borrelia*, all types / Borreliosis / Lyme Disease,” all *E. coli* forms, “*Pseudomonas aeruginosa*,” the *Salmonella* entries, “*Staphylococcus* / Staph,” “*Staphylococcus pyogenes aureus*,” “*Streptococcus* / Strep,” the *Streptococcus pyogenes* entries, and “*Treponema pallidum* / Syphilis.” Under **CANDIDA, FUNGI, MOLDS AND YEASTS**, see “*Candida albicans*,” “*Aspergillus flavus*” and “*Funneliformis mosseae*.” Cancerous breast, thyroid and lung tissues also contribute to the degeneration of cartilage, so if applicable, see the appropriate entries under **CANCER**. See the major heading, **TUBERCULOSIS, ALL TYPES**, as some tuberculosis bacteria may also be involved.

Dr. Gary Wade reports great success with 1028 Hz, delivered as a square wave with a pad unit at an output voltage of between 3.6 and 6.3 volts. Put an electrode patch on either side of the injury. (DC offset must be *off*.) In addition to the frequencies below, try others under **REGENERATION AND HEALING**.

1028 (from Dr. Gary Wade—see above paragraph for instructions), 2720, 40K

CAT VIRUS, UNSPECIFIED

See under **VIRUSES**. Also see “*Toxoplasma gondii* / Toxoplasmosis” under **PARASITES, PROTOZOA AND WORMS**.

CATARACTS, ALL TYPES

See under **EYES**.

CATARRH

See under **RESPIRATORY TRACT**, *Lungs*; **GASTROINTESTINAL TRACT**; **EYES**; or **WOMEN**, *Uterus, Cervix, Ovaries and Fallopian Tubes*.

CELLULITE ELIMINATION

See under **OBESITY / OVERWEIGHT**.

CELLULITIS

Caused by inflammation and swelling of fluids that don’t drain, but become trapped in the tissues. The inflammation usually leads to deep infection below the skin. The infection can develop after the skin has been broken—generally from a cut, burn, surgical wound, injury, or animal or insect bite. Cellulitis can also result from skin lesions, ulcers, fungal skin infections, lymphedema, immune weakness, diabetes, and result from circulation problems and from being overweight. Symptoms include tenderness, pain, swelling, redness at the site of the infection, and sometimes fever and chills.

Cellulitis can occur anywhere, though adults often have it on the legs, face, and arms. Don’t confuse this condition with the dimpled fat stored in connective tissue beneath the skin surface (cellulite). Cellulitis is usually caused by bacteria, so see “*Staphylococcus*,” “*Streptococcus*” and “*Enterococcus faecalis*” under **BACTERIA**.

CEREBRAL PALSY

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

CEREBROSPINAL CONDITIONS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

CERUMEN

See “Wax, Excessive / Cerumen” under **EARS**.

CERVICAL INFLAMMATION, CERVICAL ADENOMA, AND CERVICAL POLYP

See these respective entries under **WOMEN**, *Uterus, Cervix, Ovaries and Fallopian Tubes*.

CHANCRE

See “Syphilis” under **MEN**, *Penis* or **WOMEN**, *Vagina, Labia and Clitoris*.

Always use 40K with each session.
It doesn’t kill or disable pathogens,
but it does bring vitality to the cells.
Run it for as long as you want.

Niacin-Sauna Protocol to Eliminate Toxins

Chelation is the use of specialized ingredients to draw out and bind heavy metals (and occasionally other harmful substances), which the body then excretes. Usually performed over many months or even years, chelation is administered intravenously, by a licensed health practitioner; orally, by the subject (with or without doctor supervision); and occasionally via rectal suppositories (with or without doctor supervision). All natural health practitioners agree that toxins cause severe physical, mental and emotional damage. The problem is, opinions vary regarding the best way to eliminate these noxious substances (see pages 624–626).

The Niacin-Sauna Protocol also eliminates toxins. Because a sauna is used, there's no need to figure out which ingredients to ingest to mobilize and bind the toxins. Each day, the person takes Vitamin B3—niacin, *not* time-release niacin or its derivative niacinamide—starting with 100 mg, increasing the amount by 100 mg every few days. (Building up to 10 mg per kg of body weight is the goal.) Three hours after being ingested, the niacin starts releasing all lipophilic (fat-loving) toxins—metals, pesticides, solvents and other chemicals, even drug residues—from the fat cells. At the 3-hour mark, the subject sweats out the toxins by first exercising (optional, but recommended) and then getting into the sauna for at least one hour. (L. Ron Hubbard, who in 1979 developed a crude form of this protocol, hypothesized that the unpleasant flushing of the skin caused by niacin relates to the amounts of toxins in the body—and that as contaminants leave, the severity and duration of the flush decreases.) The protocol advises one to eat certain oils and/or activated charcoal to prevent the reabsorption of pollutants in the digestive tract. Minerals are taken to replace those lost via sweating, and to support the body in removing debris that the niacin has mobilized. Subjects also take vitamins, amino acids, and EFAs to ensure that the body is properly nourished.

Any toxin elimination protocol benefits from gut binders. Activated charcoal and bentonite clay bind to toxins in the digestive tract, and might be used instead of the oils, which sometimes upset the system.

The Niacin-Sauna program, proven to work, is described in Hubbard's book *Clear Body Clear Mind* (the version copyrighted 2002 and earlier contains information that later editions omit). However, the program has since been updated to ensure faster, easier, and more complete detox. See Appendix A, **Sauna-Niacin Therapy Protocol**, for information on personalized coaching and supervision, and where to go, for this daily protocol. People have reported results within two weeks.

CHEMICAL SENSITIVITY / POISONING

Also called “Multiple Chemical Sensitivity” (MCS) and “Environmental Illness” (EI). These labels tend to imply a deficiency or dysfunction in the person rather than a bona fide response to being assaulted by an amazing array of common synthesized poisons. Discredited for years by doctors as a paranoid form of mental illness, in 1995 this condition was recognized as physically-based by sixty government agencies. Over 80% of chemically sensitive people are women—perhaps because most toxins lodge in fat tissue, and women's bodies naturally contain more fat than men's bodies.

Symptoms include respiratory and digestive disorders, headaches, fatigue, body aches and pains, inflammation and swelling, susceptibility to chronic infections, and emotional and cognitive disorientation. Liver and nerve damage, and sometimes brain damage, are inevitable. There's no limit to the variety of symptoms because people respond individually to being poisoned. Every system of the body can be involved, whether from acute or chronic exposure. Toxic contaminants include detergents, plastics, solvents, heavy metals, cigarette smoke, gas fumes, pesticides, herbicides, makeup, perfumes, dyes, foods, drugs, and biological agents (such as mold). Once the individual becomes sensitized to a particular agent, subsequent reactions are provoked by infinitesimally small amounts of a wide range of substances. This is because an overwhelmed body (with an overworked, undernourished liver) can no longer break down contaminants into neutral substances and excrete them—and once this happens, everything is potentially toxic, even beneficial nutrients.

Rife researchers do not provide frequencies specifically for MCS/EI, as many systems in the body are compromised and there are usually multiple causes. Consult an experienced holistic practitioner. Symptoms are complex and interrelated, so try to isolate and tackle one or two problems at a time to lessen the onslaught of toxic waste and hence symptoms.

You will need plenty of rest and nutritional support, including trace minerals. Dr. Richard Loyd writes that free amino acids are vital for detoxification and healing disease (see Sidebar, “Underappreciated Amino Acids,” page 656).

If you have silver-mercury fillings, have them removed by a holistic dentist. The mercury is offgassing into vapors that you're constantly absorbing. Some heavy metals, similar to the actual valuable minerals that we need, occupy the same receptor sites. Chemical toxins and heavy metals (especially mercury) damage the mitochondria, which are the energy-burning units of the cells. This damage makes the cells unable to process thyroid hormone, thus causing hypothyroid-like conditions. The direct removal of mercury and other metals requires effort, time, and patience. These metals can be removed only if you follow both detoxification and cleansing protocols. Practitioners have widely varying opinions on the best ways to detoxify from mercury; see Sidebar, “Niacin-Sauna Protocol to Eliminate Toxins.” Also see Chapter 3, **Detoxification and Oxygen Therapies** for details.

There are many relevant categories. See “*Candida albicans*” and “*Sporotrichum pruinosum*” under **CANDIDA, FUNGI, MOLDS AND YEASTS**, as *Candida* feeds on heavy

metals. Try **PARASITES, PROTOZOA AND WORMS**. Check other listings for affected organs and glands, particularly the liver: **LIVER AND GALLBLADDER**, *Liver*. See “Thyroid, Underactive / Hypothyroidism” under **GLANDS**, *Thyroid*. See **URINARY TRACT**, *Kidneys*; and **RESPIRATORY TRACT**, *Throat and Lymph Nodes*. Also see **BACTERIA**, “*Mycoplasma*, many types,” because chemical sensitivity is often associated with *Mycoplasma* infection. Also see **REGENERATION AND HEALING**. 40K (run for as long as you want)

Acetaldehyde Detox

Acetaldehyde is a product of *Candida*. See “*Candida albicans*” under **CANDIDA, FUNGI, MOLDS AND YEASTS**. 3103032.511

Mercury, Aluminum, and Other Contaminants

“Heavy metals” refers to a group of toxic elements—aluminum, arsenic, mercury, cadmium, lead—that should never be ingested, inhaled or absorbed through the skin. They are deliberately added to thousands of products: adhesives, carpet, dental fillings, fabric softener, batteries, compact fluorescent light bulbs, personal care items, and drugs (including vaccines). Heavy metals can cause illness or exacerbate an already existing condition, including Alzheimer’s, autism, and chemical sensitivity. Mercury and aluminum, in any form, are among the most dangerous substances on the planet. They corrode the delicate hair-like tendrils on the nerve cells and strip off the protective fatty myelin coating on the nerve sheaths.

Fluoride, which is purposely added to dental products and water worldwide, can collect in the pineal gland and suppress higher brain function as well as melatonin and serotonin production. Fluoride belongs to a class of chemicals called halogens (which include chlorine and bromine) that displace iodine on the cell receptor sites. According to Mark Sircus, David Brownstein and others, saturating the body with iodine pulls all halides out of the tissues, to be excreted in the urine.

Candida feeds on mercury. See **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*Candida albicans*”; you may have an infection.

Vaccinations, Reactions to

Negative reactions to vaccines are understandably normal responses to the receipt of poisons (see Chapter 1, **The Vaccine Controversy**). Reactions may include asthma, arthritis, autism, autoimmune conditions, convulsions, cancer, coughs, cramps, digestive disorders, fever, food and environmental allergies, flu-like infections, kidney malfunction, liver and skin problems, mood changes (including violent outbursts), neurological disorders (epilepsy, disorientation, memory loss), and sleep disorders. Inoculated infants and children often regress to behavior of an earlier age. They may react abnormally to sound and other stimuli. Also, they may suddenly have problems walking.

Milky Oats for Nerve Repair

Mercury has an affinity for nerve and brain tissue and is very destructive to them. If your nervous system is too damaged to recognize that mercury is present, your body may be unable to eliminate the metal even if you use a chelation protocol. Whole unhusked oat tops (not the stems or straw) contain high concentrations of compounds that heal nerve tissues. (Don’t confuse the oat *top* with oatmeal, the starchy groat *inside* the inedible, fibrous husk that’s separated from the husk, heated, steamed, and usually flattened into flakes we eat for breakfast.)

Before you begin your mercury detox program, drink two or three cups of oat top tea to regenerate your nervous system. Boil the water, turn off the heat, and steep a heaping teaspoon of oat tops for every cup. The tea is finished when the water turns light green. Its taste is surprisingly reminiscent of cow’s milk, which is why oat top tea is often called “milky oats.” It can be refrigerated for two days, but is more potent and better-tasting when brewed fresh.

A multifaceted approach is required to repair damage from inoculation (although of course a better option is to not vaccinate at all). The physical and mental afflictions that inoculated humans and animals suffer are due to many ingredients that comprise vaccines and can remain in the body unless eliminated: pathogens and pieces of them, biological waste, heavy metals, and food ingredients that are now allergens because they have been injected.

The metals—aluminum and its compounds, and the mercury-based thimerosal—need to be eliminated and microbial infections must be addressed. Organs of detoxification and elimination (including the liver and kidneys) also need support. See Sidebar, “Niacin-Sauna Protocol to Eliminate Toxins.”

Nutrients must be replenished and absorbed. Developmental pediatrician and autism specialist Mary Megson discovered that vaccines block the Vitamin A pathways in the brain and impair the memory T cells. She advocates a diet of Vitamin A-rich liver and kidney meats and especially cod liver oil. For amounts, she recommends ½ teaspoon of cod liver oil or 2500 IU of Vitamin A per day (for 2–5 year olds); ¾ teaspoon of cod liver oil or 3750 IU of Vitamin A per day (for 5–10 year olds); and 1 teaspoon of cod liver oil or 5000 IU of Vitamin A per day (for 10–12 year olds). Infants younger than 2 years old receive less than one-fifth of a teaspoon, once a day, either in their bottle or rubbed on the belly (the oil is easily absorbed through the skin). Dr. Megson reports that children have responded well, enjoying improved eye contact, decreased asthma symptoms, better language comprehension and verbal skills, and better overall health. Infants respond even better than older children.

A constitutional homeopath can prescribe a remedy specific to your symptoms, to help counteract the effects of vaccinations in both humans and animals. Thuja is often used for vaccinosis, but there are other remedies as well.

Try frequencies for any symptom pictures that develop, along with the specific pathogens in the vaccine. Also see **REGENERATION AND HEALING**. I have observed that rifting is quite healing for inoculated animals.

40K (run for as long as you want)

CHEMTRAILS

People from all over the world report seeing white streaks in the sky created by (usually unmarked) aircraft. The streaks somewhat resemble the ordinary white vapor trails emitted by a jet (known as *contrails*). However, *chemtrails* are thicker and remain in the sky for many hours. They begin as streaks and lines—often in “X” shapes or discernible grids—and spread out in feather-like patterns from a midline seam. Although most chemtrails are white, people sometimes report witnessing brown chemical trails as well as pale, web-like wisps that fall to the ground.

Wherever chemtrails are seen, there is a marked increase of flu-like infections that manifest as severe respiratory infections and coughing, gastrointestinal distress, hormonal impairment, liver and kidney damage, and neurological disorders including brain fog, memory loss, and headaches. In some cases, near-blindness and deaths have been reported.

Independent laboratories, analyzing the wisps and particulate matter that have fallen to the ground, report the following heavy metals: aluminum oxide particles, nano aluminum-coated fiberglass, arsenic, barium compounds, cadmium, lead, mercury, nickel, strontium, and titanium. Other ingredients include polymer fibers, sulfur dioxide, and ethylene dibromide or EDP (whose use as a pesticide was legally prohibited because it’s carcinogenic). Biological agents include strains of *Pseudomonas*, *Mycoplasma* and *Enterobacteriaceae* (a large category of bacteria), mold spores, and mycotoxins. Some recognizable biological agents include desiccated human red blood cells and certain portions of human white blood cells that are used in research labs to snip and combine DNA.

Various governments and universities (including the University of Oxford and Carnegie Institution’s Department of Global Ecology) publicly admit to the existence of these “geoengineering experiments,” which are supposedly being done to cool the Earth and protect its fragile ecosystems. Another advocate of these experiments is the US Department of Energy’s Savannah River National Laboratory in Aiken, South Carolina, which in 2008 began shooting porous-walled glass microspheres (which can be filled with gases and other substances) into the stratosphere. Even Wikipedia has a page on “Stratospheric aerosol injection (climate engineering),” in which it discusses sulfate aerosols “to limit the effect and impact of climate change due to rising levels of greenhouse gases.” These aerosols would be delivered by “sulfuric acid, hydrogen sulfide . . . or sulfur dioxide.”²² And on June 29,

2016, John O. Brennan, director of the Central Intelligence Agency (CIA), spoke at the Council on Foreign Relations in Washington, DC about many topics, including chemtrails. He discussed “the array of technologies—often referred to collectively as geoengineering—that potentially could help reverse the warming effects of global climate change. One that has gained my personal attention is stratospheric aerosol injection, or SAI, a method of seeding the stratosphere with particles that can help reflect the sun’s heat.”²³

In view of all the physical evidence (and data collected on these physical materials), it makes sense that some type of official statements would have to exist. However, the contamination of our atmosphere for the stated purpose of “weather modification” is clearly a ruse. Even though aluminum particles do reflect the sun’s rays and prevent some of its heat from reaching Earth, it makes no sense to dispense such a toxic metal—not to mention all of the other metals and biological agents—into the atmosphere.

As far back as 2003, *The Annals of Otolaryngology, Rhinology, and Laryngology* published a paper titled “Feasibility of aerosol vaccination in humans.” The abstract stated: “Several thousand human subjects have been aerosol-vaccinated over a period of many years in Russia with live-attenuated strains against many diseases. Extensive field trials in South America with aerosolized live-attenuated measles vaccine have also been successful, and excellent results have been reported with pilot projects employing inactivated or live-attenuated aerosol influenza A vaccine. . . . this method has already been used successfully in large populations.”²⁴ Some reporters have discussed finding lithium carbonate (the drug) in some chemtrail sprays. We already know that oxytocin, the “bonding” or “love” hormone produced by the human body, has been put into nasal sprays in the hope that it will help people who are “anti-social.” What is to prevent this and other medications from being sprayed on people as well?

In 2015, the US government unlawfully ordered employees of the National Weather Service and the National Oceanic and Atmospheric Administration to refrain from speaking about many aspects of their jobs—including the existence of chemtrails, beyond the purported purpose of weather control. Any reasonable person must ask why.

The frequencies to use depends on what you’ve been exposed to. See **BACTERIA**, “*Mycoplasma*, many types” and “*Brucella*, all types”; **TUBERCULOSIS**; and “Ebola virus / Ebola hemorrhagic fever” under **VIRUSES**, as Ebola has been found in Chemtrails as well. Also see specific listings pertaining to your symptom picture. Use a nebulizer (see page 798 and Chapter 3, page 469).

CHICKEN POX

See “Herpes Virus Type 3 / *Herpes zoster* / Chicken Pox / *Varicella* / Shingles” under **VIRUSES**.

CHIKUNGUNYA VIRUS (CHIKV)

See “*Chikungunya* Virus” under **VIRUSES**.

CHILBLAINS

See under **INJURIES**.

CHLAMYDIA, ALL TYPES

See under **BACTERIA**.

CHOLECYSTITIS

See under **LIVER AND GALLBLADDER**, *Gallbladder*.

CHOLERA

See “*Vibrio cholerae* / Cholera” under **BACTERIA**.

CHOLESTEATOMA

See under **EARS**.

CHRONIC FATIGUE SYNDROME (CFS)

See “Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)” under **VIRUSES**. Also see **FATIGUE / CHRONIC FATIGUE**.

CIRCULATION, TO BALANCE AND NORMALIZE

See under **HEART, BLOOD AND CIRCULATION**.

CIRCULATION, SLUGGISH—TO CLEAN THE BLOOD

See “Blood, to Clean” under **HEART, BLOOD AND CIRCULATION**.

CIRCULATION, SLUGGISH—TO STIMULATE BLOOD FLOW

See under **HEART, BLOOD AND CIRCULATION**.

CIRRHOSIS OF THE LIVER

See under **LIVER AND GALLBLADDER**, *Liver*.

CITROBACTER AMALONATICUS

See under **BACTERIA**.

CLADOSPORIUM FULVUM

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

CLAVICEPS PURPUREA

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

CLONORCHIS SINENSIS

See under **PARASITES, PROTOZOA AND WORMS**.

CLOSTRIDIUM BOTULINUM / BOTULISM

See “*Bacillus botulinum*” under **BACTERIA** or under **GASTROINTESTINAL TRACT**, *Small Intestine*.

CLOSTRIDIUM DIFFICILE / PSEUDOMEMBRANOUS COLITIS

See under **BACTERIA** or under **GASTROINTESTINAL TRACT**, *Colon / Large Intestine*.

CLOSTRIDIUM TETANI / TETANUS / LOCKJAW

See under **BACTERIA**.

CODDIDIOIDES IMMITIS

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

COLD, CHEST AND HEAD

See under **RESPIRATORY TRACT**, *Nose and Sinuses*.

COLD SORES

See “*Herpes simplex* 1” under **VIRUSES**, *Herpes, all types*.

COLIC

See under **GASTROINTESTINAL TRACT**, *Colon / Large Intestine*.

COLLECTOTRICHUM

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

COLON CANCER

See under **CANCER**.

COLON CONDITIONS, ALL

See under **GASTROINTESTINAL TRACT**, *Colon / Large Intestine*.

CONCENTRATION, TO IMPROVE

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

CONDYLOMA / WART

See “Wart, Venereal / Condyloma” under **MEN**, *Penis* or **WOMEN**, *Vagina, Labia and Clitoris*.

CONGESTION, NASAL

See “Nasal Congestion and Infection” under **RESPIRATORY TRACT**, *Nose and Sinuses*.

CONGESTIVE HEART FAILURE

See under **HEART, BLOOD AND CIRCULATION**.

CONJUNCTIVITIS

See under **EYES**.

CONNECTIVE TISSUE INFLAMMATION

See “Bursitis” under **INJURIES**.

CONSTIPATION

See “Diarrhea and/or Constipation” under **GASTROINTESTINAL TRACT**, *Systemic Conditions*.

CONTUSION

See “Bruise / Contusion” under **INJURIES**.

CONVULSIONS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

COORDINATION PROBLEMS

See “Ataxia” and “Ataxia, Spastic” under **MUSCLES**.

CORN SMUT

See “*Ustilago maydis* / Corn Smut” under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

CORONAVIRUS

See under **VIRUSES**.

CORYNEBACTERIUM DIPHTHERIAE

See under **BACTERIA**.

COSTALGIA

See under **BONE AND SKELETON**.

COUGH

See conditions pertaining to a cough under **RESPIRATORY TRACT**.

COVID-19

See under **VIRUSES**.

COXSACKIE VIRUSES

See under **VIRUSES**.

CRAMPS, LEG

See "Intermittent Claudication" under **HEART, BLOOD AND CIRCULATION**.

CRAMPS, MANY TYPES

See **APPENDICITIS**; entries under **GASTROINTESTINAL TRACT**; entries under **PARASITES, PROTOZOA AND WORMS**; and **WOMEN, Menstruation and Menopause**, "Menstrual Cramps."

CREUTZFELDT-JAKOB DISEASE (CJD)

See **PRIONS / AMYLOIDOSIS**.

CROHN'S DISEASE

See under **GASTROINTESTINAL TRACT, Colon / Large Intestine**.

CROSSED EYES

See "Crossed Eyes / Double Vision / Diplopia" under **EYES**.

CRYPTOCOCCUS NEOFORMANS

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

CUSHING'S SYNDROME

See under **GLANDS, Adrenals**.

CUTS, TO SPEED HEALING

See under **SKIN**.

CYSTIC FIBROSIS (CF)

Abnormal proteins are created that prevent the easy transport of chloride (a component of salt), causing excess thick, sticky mucus to accumulate in the lining of the lungs and pancreas. The clogging causes breathing problems, coughing, wheezing, and frequent lung infections including pneumonia. If lung damage is severe, premature death is possible. Digestive fluids made by the pancreas may also become too thick to reach the small intestine, resulting in digestive problems. Research from the 1980s showed that CF

often developed in people who were deficient in selenium, and that they healed when given this mineral.

Many CF infections are caused by the bacterium *Pseudomonas aeruginosa* (below), which rarely causes problems in healthy people. Also try applicable entries under **PARASITES, PROTOZOA AND WORMS**.

333 + 523 + 768 + 786, 478, 557, 660 + 690 + 727, 775, 776, 778, 787, 802 + 1550, 880, 40K (for as long as desired)

Experimental: 543.75, 641.18

***Pseudomonas aeruginosa* cause**

985 (from Dr. Loyd), 5311, 482 (both from Dr. Garvey), 174, 178, 191, 405, 633, 731, 785, 1132, 3965, 6646

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 331250 (lowest), 333K (optimal), and 334600 (highest)

Hz set: 821.09 (lowest), 825.42 (optimal), and 829.39 (highest)

Also from Clark: 16579.09

CYSTITIS

See under **URINARY TRACT, Bladder and Urethra**.

CYSTOPYELONEPHRITIS

See this and other entries under **URINARY TRACT, Kidneys**.

CYSTS, MANY KINDS

See the various entries for cysts under **TUMORS, BENIGN**.

CYSTS, SEBACEOUS

See under **SKIN**.

CYTOMEGALOVIRUS (CMV)

See "*Herpes Virus Type 5 (Human Herpes Type 5) / Cytomegalovirus (CMV) / Salivary Gland Virus*" under **VIRUSES, Herpes, all types**.

—D—**DEAFNESS**

See under **EARS**.

DEER FLY FEVER

See "*Francisella tularensis* / Tularemia / Rabbit Fever / Deer Fly Fever" under **BACTERIA**.

DEMATIUM NIGRUM

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

DEMENTIA

See “Alzheimer’s Disease” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

DENGUE VIRUS, TYPES 1, 2 AND 3

See under **VIRUSES**.

DENTAL

Dental health is connected to the health of the rest of the body. Meridians corresponding to every organ and system are in the hands, soles of the feet, ears, colon, and teeth. Because the mouth is loaded with bacteria, dental infection can cause a wide range of problems—chronic fatigue, heart disease, allergies, even cancer—thus preventing recovery from any illness. Many people with “terminal” or unsolvable illnesses have completely recovered (some in 48 hours) after a tooth was pulled and the necrotic tissue in the area was removed. Sometimes the meridian of an adjacent tooth is affected as well, due to the seepage of bacteria; so the entire jaw should be thoroughly checked.

Some people get root canal surgery. The living pulpy structures of the tooth are removed and the inert tooth is allowed to remain in the jaw. Most dentists don’t remove the capillaries that harbor bacteria, which is why root canal teeth become reinfected, explains George Meinig in *Root Canal Cover-Up*. Many holistic dentists agree that teeth should not be left in the mouth because regardless of how they are extracted they will leave infections. However, Dr. Mark Manhart believes that if the area is thoroughly cleaned and a 2mm space is left surrounding the root, the area may fill in on its own and the tooth can safely remain. A cold spray like Endo-ice should be used to test the tooth. If the tooth is near-normal or normal, the subject will feel it the cold for several seconds. If the cold lingers and throbs, the tooth is live but infected, and will die. No sensitivity means the tooth is dead.

Similar chronic low-grade infections develop when teeth are extracted for whatever reason (“wisdom” teeth are commonly removed), and a portion of the periodontal ligament remains in the jaw. This prevents the body from filling in the tooth socket with healthy new bone and creates an environment for bacteria. Infection can also result if adjacent bone is not scraped and cleaned. This condition is called a cavitation, or cavity within the bone. The most effective treatment for cavitation is the mechanical removal of all infected areas (surgery). Cavitations are insidious. Initially, most people are asymptomatic. Or they might suffer from an assortment of low-level, chronic symptoms for years without being able to identify the cause. It can take decades for the origin of symptoms to become apparent. By then, serious damage to the body has usually occurred. If you must have teeth extracted, consult a dentist who’s knowledgeable about cavitations and knows how to properly clean the areas.

Although dental problems can be controlled with frequencies, a good diet and proper cleaning, infection will recur unless silver amalgam fillings are replaced with uranium-free porcelain or resins. Mercury, a toxic metal, comprises over half the content of so-called silver fillings.

Common Dental Pathogens

See dnafrequencies.com for frequencies not listed here.

- ◆ *Actinomyces israelii*
- ◆ *Aggregatibacter actinomycetemcomitans*
- ◆ *E. coli*
- ◆ *Eikenella corrodens*
- ◆ *Enterococcus faecalis* (in most root canal teeth)
- ◆ *Porphyromonas gingivalis* (main gingivitis bacterium)
- ◆ *Proteus mirabilis*
- ◆ *Proteus vulgaris*
- ◆ *Staphylococcus aureus*
- ◆ *Staphylococcus mutans*
- ◆ *Streptococcus pyogenes* (Streptococcus group A)
- ◆ *Treponema denticola* spirochete

As Hal Huggins extensively documents, mercury interferes with the oxygen-carrying capability of red blood cells. It also causes allergies and autoimmune disorders, upsets protein metabolism and the balance of gut flora, and decreases immune cell production so that immunity is weakened. Minute amounts of mercury destroy nerve tissue: brain cells die in ten minutes. When mercury destroys the delicate nerve cells and strips the protective fatty myelin sheath from the nerve stem, messages cannot be conveyed throughout the body (which fails to recognize that mercury is present). Mercury can cause depression, nervousness, insomnia, impaired kidney function, tremor, convulsions, infertility, and birth defects. The biochemical destruction in the brain from mercury is identical to that of Alzheimer’s.

The American Dental Association explicitly warns dentists not to touch mercury and to wear masks to avoid breathing its fumes. Yet mercury is put into people’s mouths! See a holistic dentist to get your silver-mercury fillings removed and replaced with less toxic porcelain or other material. Proper removal of mercury includes using rubber sheeting to prevent metallic vapors from being reabsorbed into the porous mucous membrane of the mouth; breathing oxygen during the procedure; and sometimes chelation during and after to ensure that any remaining mercury is escorted out of the body. Otherwise, mercury dust on the inside of the cheek can be absorbed. In lieu of filling removal, Dr. Richard Loyd advises to “temporarily seal the fillings. Hold the negative face of a flat magnet on the cheek near the tooth. Shine a white LED light on the filling for ten seconds. This effect lasts until the teeth are cleaned,”²⁵ after which the LED procedure is repeated.

Sauna therapy helps the body excrete heavy metals, including mercury (see Chapter 3, **Sauna Therapy**). Some substances chelate (bind to) metals and escort them out of the system. Before chelating mercury, to help restore the nerve cells and help them recognize the presence of the metal, drink oat top tea (See Sidebar, “Milky Oats for Nerve Repair,” page 697).

Fluoride is another poison that dentists legitimize. The sodium fluoride in toothpastes, which is actually a waste product from the aluminum and fertilizer industries, was once used as a rat poison. Hundreds of suppressed studies show that fluoride does not prevent cavities, but can actually cause tooth enamel to erode. Fluoride also hinders brain development and suppresses some higher brain functions, making people apathetic (see Chapter 3, **Water**). In fact, in a 2014 study showing how curcumin—a compound in powdered turmeric root (used in Indian cooking)—reverses oxidative stress in nerve and brain tissue, the brains of mice were first deliberately contaminated with fluoride to induce damage so the scientists could observe the effects of the curcumin! The article is even called “Curcumin attenuates neurotoxicity induced by fluoride: An in vivo evidence.”²⁶ Scientists have known for almost a century that fluoride causes brain damage. In the article, the researchers even stated *where* in the brain the damage occurs (the hippocampus, among other regions).

One inexpensive, easy, and surprisingly effective way to restore the teeth and gums is oil pulling (or oil swishing). Oil pulling, described in old Ayurvedic texts, has been publicized by F. Karach, a contemporary Ukrainian medical doctor, for its ability to cure many systemic diseases including allergies, digestive disturbances, headaches, respiratory disorders, blood sugar problems, skin conditions, and even cancer. I can't vouch for any of the systemic conditions, but personal experience shows that oil pulling really does help eliminate plaque (and pain) in the mouth. The original protocol called for one tablespoon of unrefined sesame oil, although some people prefer coconut oil. (Coconut oil contains about 50% lauric acid by weight and thus inhibits various bacteria, especially *Streptococcus mutans*—an acid-producing bacterium found in the mouth and responsible for tooth decay—as well as the fungus *Candida albicans*.) The oil is poured into the mouth but not swallowed. Enough room must be left in the mouth for additional saliva that the salivary glands will secrete in response to the presence of oil. The oil is swished in the mouth, at least one hour away from eating or drinking, one to three times a day for 15–20 minutes—enough time to bind the toxins without allowing them to be reabsorbed in the mouth. The oil mixed with saliva becomes thin and white. Don't swallow the oil, which is now filled with toxic debris. The swirling is believed to activate enzymes in the mouth, which pull toxins from the blood. Dr. Karach is reported to have stated that it can take from two days to one year to completely cure a condition. When swishing for dental problems, people report both eliminating plaque and remineralizing teeth. Oil pulling also helps alleviate (if not eliminate entirely) receding gums and dental pain. When you're finished, spit out the oil into the trash and not the sink or toilet, as the oil can clog plumbing pipes.

If the mouth is kept alkaline for several hours at a time (without food or beverages), the teeth may remineralize. Dr. Manhart has formulated a solution of free calcium, zinc, and other minerals that help correct the pH of the mouth.

Poisonous nickel alloy braces should be replaced, at the very least, with stainless steel. However, be aware that any metal in the mouth conducts electricity, and thus interferes with natural nerve conduction. It's far better if you have the option of using dentures made of safe plastic. Also, both titanium and zirconium are unsafe; neither should be used for implants.

Despite cautioning others about using electrodes on the face, I admit that some rifiers (including myself) have successfully used electrode patches on the cheeks for gum and tooth infections. The standard medical disclaimer is to avoid applying current to the face because the current might irritate or damage the delicate facial skin if it's too strong. Also, passing electrical current through the carotid artery (located on either side of the neck, under the jaw, just in front of the bottom of the ear) can cause permanent heart damage and even death. In fact, laboratory researchers routinely send electrical current through the carotid artery of experimental animals to create blood clots when their goal is to induce heart attacks. Therefore, electrodes must be used very carefully with three stipulations. One, the power control must be at a very low setting. I bring the signal to a high enough level so the current can barely be felt. If pain is felt or if muscles twitch, the signal is too strong. Two, salt water is held inside the closed mouth. The highly conductive salt water ensures that the current penetrates the tissues. (The body is constantly producing saliva, so the mouth is filled with salt water only about two-thirds of its total capacity. After an hour session, there won't be any room left in the mouth. The saliva, which is now filled with infectious debris, shouldn't be swallowed.) Three, with this delivery system, it appears to be the electrical current, rather than specific frequencies, that disables pathogens. Some European practitioners suggest using any frequency below 1000 Hz. Six consecutive days of 1-hour sessions is sufficient for many dental problems, but you may need more days if necessary.

One more thing. Brushing or gently scraping the tongue will eliminate the thin layer of debris and coating, along with the bacteria that reside there. It will also freshen the breath.

Mouth and Gums

When the gums separate from the teeth to form pockets (even if the gap is slight), food particles become trapped inside. However, gums that recede can grow again, given the proper nutrients and mouth terrain. For gum repair and regrowth, one solution is a product called Peri-Gum®. It contains extracts of echinacea, bloodroot, white oak bark, bayberry and cayenne, and tea tree and peppermint essential oils. You can also make your own dental care products: see Sidebar, “Simple Mouthwash and Toothpaste Recipes.” Food grade hydrogen peroxide works as a mouthwash because it raises the oxygenation of the tissues, thus helping to prevent infection (see Chapter 3, **Oxygen Therapies**). The germicidal properties of many essential oils are well known. They halt bleeding; kill bacteria, fungi and viruses; and reduce inflammation.

Abscess

Cavity formed by the disintegration of tissue, which creates pus, an accumulation of dead white blood cells. Use frequencies for known pathogens in addition to the ones below.

190, 428, 444 + 1865, 450, 465, 500, 660 + 690 + 727, 760, 787, 802 + 1550, 880, 2170, 2720

Bad Breath

See “Halitosis / Bad Breath” in this section.

Cancrum oris

Rapidly growing oral or nasal ulcer, which can become gangrenous.

20, 660 + 690 + 727, 787, 802 + 1550, 880

Canker Sores / Stomatitis Aphthous

Ulcers on mucous membranes of mouth. Correct any digestive disturbances. Also see **VIRUSES**, **Herpes, all types** and applicable entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

First try: 904.67 (for 10 minutes, sweep 3 Hz on either side of main signal), 901, 902, 903, 904, 905, 906 and 907 at 5 minutes a piece.

Then try: 234, 278, 465, 478, 487, 498, 568, 672, 677, 702, 787, 788, 955, 982

Catarrh, or Mucous Membrane Inflammation

In various places including the respiratory tract, gastrointestinal tract, eyes, and uterine area.

20, 380, 444 + 1865, 660 + 690 + 727, 787, 800, 802 + 1550, 880

Dematium nigrum

Soil fungi found in human lesions.

243, 738

Eikenella corrodens

Causes dental infections, often found with *Strep*. Also lives in intestinal, genital, and respiratory tracts.

From Dr. Richard Loyd: 834

Entamoeba gingivalis

Highly infective ameba causes gum infection.

From Dr. Richard Loyd: 477

Fistula Dentalis

Abnormal tubelike passage in the jaw.

550, 660 + 690 + 727, 844, 878, 1122

Gingivitis / Gum Inflammation and Infection

Caused by a buildup of plaque or tartar on the teeth, or injury to gums due to brushing that's too rigorous. This condition is called pyorrhea if there is

Simple Mouthwash and Toothpaste Recipes

Most commercial products for the teeth and mouth are made with toxic ingredients, including artificial flavors, preservatives, carcinogenic dyes, and fluoride (which is a poison). Glycerin, put into even “healthy” brands of toothpaste, causes bacterial plaque to stick to the teeth. Below are simple ingredients you can use to make your own effective mouthwash and toothpaste. All of the essential oils (EOs) and extracts in the mouthwash fight pathogens. The toothpaste can be wet (from the coconut and essential oils added to baking soda), or dry (if you use the powders only). Experiment to find what works for you. All essential oils should be food grade. Recipes are approximate. Effective and safe commercial products are also suggested if you don't want to make your own.

Mouthwash

#1: Hydrogen peroxide, 3% concentrate, food grade. (Don't leave in mouth for long; it can damage teeth.)

#2: Base of 8 ounces of alkaline water (with a pH of above 7.0, as the mouth is naturally alkaline). Add:

- ◆ 3 ounces aloe vera juice
- ◆ 10 drops cinnamon EO
- ◆ 10 drops clove EO
- ◆ 10 drops peppermint or spearmint EO
- ◆ 5 drops tea tree EO
- ◆ 1–2 drops grapefruit seed extract
- ◆ *Optional:* 5 drops *Sangre de grado* (Dragon's Blood)
- ◆ *Optional:* DMSO (20 parts other ingredients to 1 part DMSO, to drive fluid deeply into tissues and bone)
- ◆ *Optional:* 30 drops mastic gum tincture may work better than hydrogen peroxide

#3: Commercial: Tooth & Gums Tonic®, Peri-Gum®

Toothpaste

#1 (Dry):

- ◆ 3 teaspoons baking soda
- ◆ 2 teaspoons calcium powder (if not used, increase amount of baking soda)
- ◆ 3 teaspoons white oak bark powder
- ◆ 1 tablespoon of finely granulated xylitol
- ◆ 3 drops of tea tree or cinnamon EO, or both
- ◆ 3 drops of peppermint EO, to taste

#2 (Wet):

- ◆ 5 tablespoons coconut oil
- ◆ 3 teaspoons baking soda
- ◆ 3 teaspoons white oak bark powder
- ◆ 1 tablespoon of finely granulated xylitol
- ◆ 3 drops of tea tree or cinnamon EO, or both
- ◆ several drops of peppermint EO, to taste

#3: Commercial: Coral White®, Pearlie White®, Squigle®

THE TEETH AND THE BODY

ENERGETIC INTER-RELATIONS

RIGHT SIDE										LEFT SIDE									
ENDOCRINE GLANDS	Pituitary gland Ant. lobe	Para-Thyroid	Thyroid	Thymus	Pituitary gland Post. lobe	Pineal gland				Pineal gland	Pituitary gland Post. lobe		Thymus	Thyroid	Para-Thyroid	Pituitary gland Ant. lobe			
SENSORY ORGANS	Ear	Tongue		Nose		Eye	Nose			Nose	Eye	Nose		Tongue		Ear			
SINUSES		Maxillary sinus		Ethmoid sinus		Sphenoid sinus			Sphenoid sinus		Ethmoid sinus		Maxillary sinus						
JOINTS	Shoulder - Elbow Sacro-iliac joint Hand, ulnar side Foot, plantar side Toes	Jaw Anterior hip Anterior knee Medial ankle joint	Shoulder Elbow Hand Medial side Foot Big toe	Posterior knee			Posterior knee			Shoulder Elbow Hand Medial side Foot Big toe	Jaw Anterior hip Anterior knee Medial ankle joint	Shoulder - Elbow Sacro-iliac joint Hand, ulnar side Foot, plantar side Toes							
				Hip	Sacro-coccygeal joint	Sacro-coccygeal joint	Hip												
				Posterior ankle joint			Posterior ankle joint												
ORGANS	Heart, right side	Pancreas	Lung, right side	Liver, right side	Kidney, right side	Kidney, left side	Liver, left side	Lung, left side	Spleen	Heart, left side									
	Small intestine, right side	Esophagus Pylorus Stomach, right side	Large intestine, right side	Gall-bladder, right side	Rectum Genito-urinary Prostate	Rectum Genito-urinary Prostate	Gall-bladder, left side	Large intestine, left side	Esophagus Pylorus Stomach, left side	Small intestine, left side									
OTHER SYSTEMS	Central nervous system	Mammary gland right side											Mammary gland left side	Central nervous system					
TEETH DIAGRAM	RIGHT																LEFT		
AMERICAN AND EUROPEAN NOMENCLATURES		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
		32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17		
TEETH DIAGRAM	RIGHT																LEFT		
OTHER SYSTEMS	Central nervous system			Mammary gland right side								Mammary gland left side					Central nervous system		
ORGANS	Small intestine, right side	Large intestine, right side	Esophagus Pylorus Stomach, right side	Gall-bladder, right side	Rectum Genito-urinary Prostate	Rectum Genito-urinary Prostate	Gall-bladder, left side	Esophagus Pylorus Stomach, left side	Large intestine, left side	Small intestine, left side									
	Ileo-cecal area																		
	Heart, right side	Lung, right side	Pancreas	Liver, right side	Kidney, right side	Kidney, left side	Liver, left side	Spleen	Lung, left side	Heart, left side									
JOINTS	Shoulder - Elbow Sacro-iliac joint Hand, ulnar side Foot, plantar side Toes	Shoulder Elbow Hand Medial side Foot Big toe	Jaw Anterior hip Anterior knee Medial ankle joint	Posterior knee			Posterior knee			Jaw Anterior hip Anterior knee Medial ankle joint	Shoulder Elbow Hand Radial side Foot Big toe	Shoulder - Elbow Sacro-iliac joint Hand, ulnar side Foot, plantar side Toes							
				Hip	Sacro-coccygeal joint	Sacro-coccygeal joint	Hip												
				Ankle joint Lateral	Posterior	Ankle joint Posterior	Lateral												
PARANASAL SINUSES		Ethmoid sinus	Maxillary sinus	Frontal sinus			Frontal sinus		Maxillary sinus		Ethmoid sinus								
				Sphenoid sinus			Sphenoid sinus												
SENSORY ORGANS	Ear	Nose		Tongue		Eye	Nose			Nose	Eye	Tongue		Nose		Ear			
ENDOCRINE GLANDS				Gonad		Adrenal gland	Adrenal gland		Gonad										
RIGHT SIDE										LEFT SIDE									

pus (an accumulation of white blood cells). Infection usually consists of severe infection of the gums, often with pus and other discharge, causing the gums to shrink and the teeth to loosen. See “Simple Mouthwash and Toothpaste Recipes,” page 703.

From Dr. Richard Loyd: 354, 867, 477

20, 146, 522, 444 + 1865, 465, 660 + 690 + 727, 726, 776, 787, 802 + 1550, 880, 1556, 1600, 1800, 2008, 2720, 2489

Halitosis / Bad Breath

Check for an impacted colon, *Candida* infection, infected gums, insufficient friendly flora, or an ileocecal valve that’s stuck open or closed. Located where the small intestine meets the large intestine, the valve is designed to prevent waste material in the large intestine from backing up into the small intestine. Ask a chiropractor to show you how to adjust it so it will open and close properly. Drink chlorophyll to kill germs and odor. Brush your tongue. See other listings for infection in this section.

Herpes Sores in Mouth

Contrary to popular belief, the different types of *Herpes* are interchangeable. Sores can also appear in genitals and on the skin along nerves, where it is known as *Herpes zoster* or shingles. If these frequencies are not effective enough, see **VIRUSES, Herpes, all types**.

428, 465, 660 + 690 + 727, 787, 802 + 1550, 880, 1500, 1800, 1850, 2489

Leukoplakia

White patches in mouth. This can precede malignancy!

465, 660 + 690 + 727, 2008, 2127.5

Oral Lesions

Open wounds or sores, usually infected. Although dental problems can be controlled or completely eliminated with treatment, infection will always recur (often with stress or poor diet) until all mercury inlays (known as “silver fillings”) are replaced with uranium-free porcelain or resins, and nickel alloy dental appliances are replaced with stainless steel. Mercury, nickel and uranium are toxic (poisonous) metals—and have toxic effects (as do aluminum and palladium). They impair the body’s immune function, causing one to be very susceptible to infections. Because the mouth is the gateway to the entire body, an infection in the gums or teeth can prevent the recovery from any illness. Also see “Toothache / Tooth Decay” under **DENTAL, Teeth**.

146, 333 + 523 + 768 + 786, 444 + 1865, 465, 522, 555, 660 + 690 + 727, 760, 776, 787, 802 + 1550, 880, 1600, 1800, 2008, 2489, 2720

Pemphigus

Rare autoimmune disorder. Symptoms include blisters in the outer layers of the skin and the mucous membranes of the nose, mouth, and throat. Also see **AUTOIMMUNE DISORDERS**, and entries for the affected body part.

893 (from Dr. John Garvey), 665, 694

Porphyromonas gingivalis

Highly infectious bacterium that causes gum inflammation and infection.

867

Pyorrhea

See “Gingivitis / Gum Inflammation and Infection” in this section.

Stomatitis Aphthous

See “Canker Sores / Stomatitis Aphthous” in this section.

Thrush

Ulcerous white patches in the mouth caused by the fungus *Candida albicans*. Often accompanied by fever and gastrointestinal disturbance. Also see entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

414, 464, 465, 660 + 690 + 727, 787, 880

Trench Mouth

Bacterial infection of tonsils and floor of the mouth. Symptoms include inflammation, ulceration, and painful swelling. Be very strict about not eating sugar; it will feed the condition. Also see listings under **RESPIRATORY TRACT, Nose and Sinuses**.

From Dr. Marty Monahan: 108, 143, 146, 160, 478

Also try: 20, 465, 600 + 625 + 650, 660 + 690 + 727, 726, 776, 787, 802 + 1550, 880, 1556

White Patches in Mouth

See “Leukoplakia” in this section.

Teeth

Teeth are living parts of the body. Beneath the outer layer of hard enamel (made of calcium and phosphate), and the dentin (the middle layer and the bulk of the tooth), is an inner core called the pulp (comprised of nerves and blood vessels). A bone-like material called cementum surrounds the root, connecting the teeth to the jaw. Unlike bone, teeth do not produce red blood cells, and are built to absorb much more shock than the skeletal system. The first set of twenty “baby” teeth begin appearing at 6 months of age. The second, permanent set form between the ages of 6 and 12, the new tooth forming beneath the old one and pushing it out of the jaw. Extra molars erupt in the adult jaw, sometimes requiring extraction if there isn’t enough room in the mouth.

The most common health problem with teeth is the formation of plaque—a soft white layer that contains bacteria, often *Staphylococcus mutans*. The bacteria produce biofilm, which enables them to adhere to the teeth. If the plaque is not removed after a few days, it hardens to become tartar. More serious problems arise when the bacteria produce lactic acid, which dissolves the enamel through demineralization. However, teeth have been known to renew themselves if the pH in the mouth is at least 5.5. Healthy saliva has an alkaline pH of 7.0 or higher. Some practitioners report that if there is an interval of several hours without any intake of food, the saliva can return the dissolved minerals to the enamel and remineralize the teeth. Cavities (“dental caries” in medical terminology) occur when over a period of time, there is more demineralization than remineralization. Pain in the teeth occurs when the acids in the mouth penetrate the dentin and reach the nerve-rich pulp. Because bacteria thrive on sugars in the mouth, a regular practice of teeth cleaning, rinsing, and flossing is the best preventive dental hygiene. Dentists usually recommend holding the toothbrush at a 45 degree angle to remove plaque from the space between the gum and tooth. Studies show that brushing for longer than two minutes, at a pressure heavier than the weight of an orange, does not remove additional plaque and in fact may damage the teeth and gums. Acidic foods such as tomatoes, citrus fruits and vinegar soften the enamel, which can then be damaged by immediate brushing. If you eat acidic foods, rinse the mouth first with either plain water or water and baking soda (which is alkaline and neutralizes the acids), and wait a half hour to brush.

A few commercial toothpastes do not contain fluoride, artificial flavors, preservatives, or sodium laurel sulfate. You can also make your own; see Insert, “Simple Mouthwash and Toothpaste Recipes,” on page 703.

Ozone, used consistently, will also remove biofilm. Administer the gas inside the mouth (but don’t inhale it), or swish with ozonated water or ozonated olive oil. See Chapter 3, **Oxygen Therapies** for more information.

Teeth Grinding / TMJ Problems / Jaw Pain

Also called “bruxism,” clenching the jaw and grinding the teeth (when one isn’t eating) has become a major problem. This often occurs at night, but not always; and it can afflict all ages. It’s unusual for children to grind their teeth; but if they do, it may be due to an obstruction in their breathing pathway and they should be checked by a doctor.

Chronic grinding of the teeth can lead to intense muscular pain in the head, neck and jaw, causing headaches and what has become known as “TMJ”—an acronym for “temporomandibular joint,” where the top of the jawbone meets the skull on either side. These joints are complex structures containing bone, muscle and tendon. Chronic teeth grinding,

besides causing intense pain, can cause tooth erosion, cracking and breaking; a shift in position of the teeth or loose teeth; increased tooth sensitivity; gum recession; and even changes in the facial bone structure.

Dentists are aware that causes of teeth grinding can be an inherently abnormal bite, trauma (such as whiplash from an auto accident), unusual repetitive motion—and of course stress, which includes worry, anger and fear. Sleep apnea (a pause in breathing during slumber) and other sleep disorders such as snoring can also play a huge role.

Conventional medicine offers a limited number of options. Sometimes a sleep study is conducted, during which a person is monitored at night with electrodes in a clinical setting to determine if the airways are blocked (which leads to sleep apnea). A dentist can make a mouth guard—pieces of plastic that fit into the mouth and prevent the teeth from touching (and hence, grinding), but this is palliative.

Holistic medicine offers face, neck, shoulders and back massage; meditation; and craniosacral release. Rescue Remedy from Bach Flower Essences or Calm and Clear from Australian Bush Flower Essences can help (see Chapter 3, **Homeopathy**). The following Bach Flower combination dissipates stress and balances many emotions, thus helping to relax the jaw muscles: Agrimony, Holly, Oak, and Vervain. You can add Cherry Plum and Willow as well if the first four don’t produce results in a week.

Teeth clenching and grinding can also be caused by some bacteria and parasites. The frequencies below are for the bacteria *Mycoplasma salivarium*, but also see **PARASITES, PROTOZOA AND WORMS**. Also see frequencies under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS; MUSCLES; PAIN;** and **INJURY**.

253, 279, 420, 453, 761, 832

Tooth Extraction, for afterward

7.83, 47, 95, 3K

Tooth Socket Infection

Enterococcus faecalis is commonly found in the gastrointestinal tract, and can cause life-threatening infections in humans. It often grows in areas that have had root canals.

From Dr. Richard Loyd: 756, 757, 758, 759, 760, 761 (you can sweep all of these), 834

Tooth Regeneration

In addition to the frequencies, supplement the diet daily with 800 IU of Vitamin E and 1,000 mg (1 gm) of Omega 3 fish oil. One rifer did this and used the frequencies below and saved a tooth.

First try, for 45 minutes: 2720

Then try, for 10 minutes each, every day: 7, 25, 424, 465, 660 + 690 + 727, 784, 787, 880, 1552, 1560, 1577, 10K, 40K (for as long as desired)

Toothache / Tooth Decay

Plaque, the sticky acidic film from many types of bacteria, forms on the teeth and lodges in pockets between the teeth and gums. The bacterial acids can destroy tooth enamel and cause cavities and gingivitis (gum disease). The first set of frequencies below is a compilation of *Staph*, *Strep* and other bacteria commonly found in the mouth. Many of the numbers were determined by Dr. Richard Loyd.

First try: 943 (from Dr. John Garvey), 253, 262, 279, 354, 358, 420, 453, 565, 761, 787, 832, 834, 842, 1980.47, 2154

The *Staph* and *Strep* pathogens keep mutating, so also try (most frequencies from Dr. Richard Loyd): 366, 456, 466, 467, 468, 478, 555, 576, 644, 647, 668, 687, 727, 728, 737, 738, 745, 757, 764, 767, 784, 785, 333 + 523 + 768 + 786, 786.5, 788, 824.4, 878, 936.97, 943, 944.4, 946, 999, 1050, 2352.44, 2371.11, 5906.25, 5953.12, 7270, 8697

Also try: 20, 23, 46.5, 47, 73, 95, 146, 160, 190, 222, 488, 465, 470.5, 488, 522, 555, 567, 600 + 625 + 650, 646, 660 + 690 + 727, 747, 766, 776, 800, 802 + 1550, 880, 1500, 1600, 1800, 1980.47, 2489, 2720, 3K, 5K, 5170, 2489, 2720, 7880

From Dr. James Bare: sweep 723–730

End of Dental section.

DEPRESSION

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS.**

DERMATITIS / ECZEMA

See under **SKIN.**

DETOXIFICATION

See under **CHEMICAL SENSITIVITY / POISONING.**

DIABETES

See under **BLOOD SUGAR PROBLEMS.**

DIARRHEA AND/OR CONSTIPATION

See under **GASTROINTESTINAL TRACT, Systemic Conditions.**

DIENTAMOEBIA FRAGILIS

See under **PARASITES, PROTOZOA AND WORMS.**

DIFFUSE TOXIC GOITER

See “Graves’ Disease / Basedow’s / Diffuse Toxic Goiter” under **GLANDS, Thyroid.**

DIGESTIVE DISTURBANCES

See entries under **GASTROINTESTINAL TRACT.**

DIPLOPIA

See “Crossed Eyes / Double Vision / Diplopia” under **EYES.**

DIPHThERIA

See “*Corynebacterium diphtheriae*” under **BACTERIA.**

DIROFILARIA IMMITIS / HEARTWORM

See under **PARASITES, PROTOZOA AND WORMS.**

DISC AND SPINE PROBLEMS, ALL

See under **BONE AND SKELETON.**

DISTEMPER

Caused by an infectious virus from the *Morbillivirus* family (which also includes the virus that causes measles). Distemper is best known for affecting dogs, but it can also spread to cats, seals, and lions. Symptoms in dogs include fever; skin eruptions; malaise; eye discharge, inflammation or dryness; dehydration; uncontrollable muscular contractions; seizures; pitting in the enamel of the teeth; vomiting; diarrhea; coughing; and runny nose. Symptoms in cats include fever, severe depression, vomiting, and dehydration.

The canine distemper virus antigen has been found in the joints of dogs afflicted with rheumatoid arthritis. (An antigen is a protein, pathogen, pollen, or other substance foreign to the body that stimulates the body’s immune response so that it produces antibodies. Antibodies are substances that recognize and fight infections and foreign substances.) It is not known whether vaccines or “naturally occurring” infections are the cause.

From Dr. John Garvey: 242, 254, 312, 551, 573, 671, 712, 1269

Also try: 253, 255, 442, 624, 660 + 690 + 727, 760, 940, 950, 1950, 8567

DIVERTICULOSIS / DIVERTICULITIS

See under **GASTROINTESTINAL TRACT, Colon / Large Intestine.**

DIZZINESS

See **VERTIGO**; and “Ménière’s Disease” under **EARS.**

DNA REPAIR

See this, and other entries, under **REGENERATION AND HEALING.**

DOUBLE VISION

See “Crossed Eyes / Double Vision / Diplopia” under **EYES.**

DOWN’S SYNDROME

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS.**

DROOPY EYELID

See “Eyelid, Droopy” under **EYES.**

Natural Remedies for the Ears

For ear infections, drop a 3% solution of food grade hydrogen peroxide into an ear until it stops fizzing. Lie on your side for each ear so the fluid doesn't spill out. Colloidal silver can also be used as often as needed. A tincture of the herb mullein is commonly used. So is garlic-infused olive oil. Also try ear insufflation using ozone (see Chapter 3, **Oxygen Therapies**).

DROPSY

See "Lymphedema / Edema / Dropsy / Water Retention" under **LYMPHATIC SYSTEM**.

DRUG ADDICTION

See "Addiction to Drugs" under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

DUODENAL ULCER

See "*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer" under **BACTERIA**.

DUODENITIS

See under **GASTROINTESTINAL TRACT, *Small Intestine***.

DUPUYTREN'S CONTRACTURE

See under **MUSCLES**.

DYSENTERY, AMOEBIC

See "Amoebic Dysentery / *Entamoeba histolytica*" under **GASTROINTESTINAL TRACT, *Systemic Conditions***; or "*Entamoeba histolytica* / Amoebic Dysentery" under **PARASITES, PROTOZOA AND WORMS**.

DYSLEXIA

There are no known frequencies for dyslexia, so see "Attention Deficit Disorder (ADD) / Attention Deficit Hyperactivity Disorder (ADHD)" under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**. Also see, in Appendix A, the Irlen Institute entry under **Color Therapy**.

DYSMENORRHEA

See "Menstruation, Painful / Dysmenorrhea" under **WOMEN, *Menstruation and Menopause***.

DYSPEPSIA

See "Indigestion / Dyspepsia" under **GASTROINTESTINAL TRACT, *Systemic Conditions***.

DYSTONIA, VEGETATIVE

See under **MUSCLES**.

DYSTONIA WITH OSTEITIS

See under **LIVER AND GALLBLADDER, *Gallbladder***.

—E—

EARS

The term "ear" can refer to just the outer ear, or all of its structures. The outer ear is the pinna, with its visible cartilage folds, plus the eardrum. The middle ear includes three tiny sound amplification bones (hammer, anvil and stirrup), some tendons, and nerves. The inner ear consists of the tiny coiled cochlea, and the vestibular apparatus designed for balance (also called the labyrinth, due to its fluid, maze-like passages). The vestibular and visual systems work together to keep objects in focus when the head is moving.

Acoustics is the science of frequencies, but sound waves are a mechanical phenomenon. First felt as air pressure, the mechanical sound waves gently push on the ear drum, making it vibrate. As the vibrations pass through the other portions of the ear, they are converted into electrical impulses, conveyed along nerves, and then translated into sound by the brain.

Ear infections not only can cause loss of balance, but they can be serious if pathogens reach the inner ear and the infection spreads to the brain. Although the conditions in this section are listed as discrete categories, if your symptoms are stubborn, try frequencies from all of the entries.

Ear Conditions, Several

Includes discharge, vertigo, tinnitus, and hearing loss.

9.19, 9.2, 20, 158, 201, 340, 410, 440, 535, 542, 645, 652, 660 + 690 + 727, 683, 787, 880, 10K, 40K

Infections, General

More children than adults suffer from ear infections. Symptoms include pressure, pain and inflammation in the middle ear, which is often caused by the buildup of fluid and can be seen as pus oozing out of the ear. Infections that are not treated can lead to vertigo, nausea and vomiting, tinnitus (ringing in ear), and even hearing loss. Causes of infection include allergies, colds, sinus infections, smoking, or even secondhand smoke exposure.

From Jimmie Holman. Deliver frequencies in the order written. Program was written for Pulsed Technologies units: 33152, 33344, 35008, 39827, 40640, 40960, 41344, 41363, 41600, 42624, 43520, 43840, 46528, 48K, 48640, 49152, 49600, 49664, 50368, 51200, 51328, 53248, 56320, 57600, 59520, 30720

Cerumen

See "Wax, Excessive / Cerumen" in this section.

Cholesteatoma

Benign inflammatory tumor usually found in the middle ear, near the mastoid bone behind the eardrum. May be caused by longstanding ear infections. Also see **CANCER** entries in case the tumor becomes malignant.

453, 618, 793 (all from Dr. John Garvey), 5058

Deafness from otosclerosis

Fusion of structures of inner ear, resulting in partial to complete immobility.

9.19, 9.2

Deafness, partial to complete

One might assume that nerve impairment is causing the condition, but the researcher who provided this listing does not specify.

9.19, 9.2, 20, 65, 660 + 690 + 727, 760, 787, 802 + 1550, 880, 10K

Discharge from Ears

9.19, 9.2, 20, 660 + 690 + 727, 787, 880

Eustachian Tube / Inner Ear Inflammation

465, 660 + 690 + 727, 776, 787, 802 + 1550, 880

Fungus in Ear

Don't rely just on the frequency below. Also see the many entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

854

Hearing, Loss of

See "Deafness" in this section.

Ménière's Disease

Auditory vertigo often accompanied by deafness and ringing in the ears. According to medical books, this is really a catch-all name for a wide variety of symptoms including various ear conditions and nausea whose underlying causes can include drug poisoning, circulatory disturbances, and microbial infections. Also see "Otitis" entries and "Tinnitus" in this section; **DENTAL; HEART, BLOOD AND CIRCULATION; and CHEMICAL SENSITIVITY / POISONING**, "Antiseptic Effect, to Produce."

8.8 to 9, 33, 329 (for at least 7 minutes), 333 + 523 + 768 + 786, 465, 428, 590, 660 + 690 + 727, 782 (for at least 26 minutes) 787, 802 + 1550, 880, 1130, 5K (for at least 16 minutes)

Mite, Follicle / *Demodex folliculorum*

Mites live in the hair follicles of humans. Although generally harmless, they can cause inflammation in the eyelashes, external ears, and facial skin.

From Dr. Richard Loyd: 476, 1332.03, 1690.5

From Jimmie Holman, for his company's equipment. Deliver frequencies in precisely the order written:

64260, 60720, 59784, 55860, 55272, 49500, 45540, 49500, 44100, 43900, 40480, 40194, 38220, 37840, 37444, 35192, 31878

From Dr. Hulda Clark: 682K or 1332.03 and 1690.51 (for units unable to reach the KHz range)

Mucor racemosus fresen

A fungus that grows on decaying vegetation and bread, can cause ear infections, and according to Guenther Enderlein, is implicated in most if not all coronary conditions.

First try: 310, 474, 875

Also try: 473, 686, 713, 729, 731, 751, 760, 778, 871, 873, 876, 878, 887, 1200, 7768, 7976, 8788

Otitis Externa

Inflammation of the outer ear. To rid the ear of excess water, hop on the leg that's on the same side as the clogged ear while tilting your head to the side so the ear opening is parallel to the ground. This will help the water to leave.

174, 464, 482, 660 + 690 + 727, 770 (from Dr. John Garvey), 784, 787, 880, 5311

Otitis Media

Middle ear swelling and/or infection, usually accompanied by fever. Also see **BACTERIA**, "*Streptococcus* / *Strep.*"

72, 125, 316 (from Dr. Garvey), 440 (for at least 5 minutes), 522, 720, 784, 786, 802 + 1550 (for at least 10 minutes), 880

Otosclerosis

Fusion and resulting partial immobility of inner ear structures, causing progressive deafness.

9.19, 9.2

Ringing in Ear

See "Tinnitus" in this section.

Staphylococcus auricularis

Often involved in ear infections.

From Dr. Richard Loyd: 366, 2976906

Swimmer's Ear

A bacterial or fungal infection of the ear canal that usually occurs from spending a lot of time in water. The pain is extreme and can last for weeks. Heat usually helps alleviate pain; but avoid applying heat if the infection is fungal because heat causes fungus to grow. If your ears become clogged with water, hop on the leg that's on the same side as the clogged ear while tilting your head to the side so the ear opening is parallel to the ground. This will help the water to leave.

See frequencies for "Otitis Externa" in this section. Also see "General Fungus / Molds / Yeasts" under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

Tinnitus

Ringing in the ears often caused by infections of the inner ear, middle ear and/or auditory nerve, characterized by subjective perceptions of buzzing, whistling, hissing, or roaring sounds in ears. This condition may be caused by heavy metal toxicity or prescription drugs, or exacerbated

by deficiencies in minerals, including magnesium. Also see “Otitis” entries and “Ménière’s Disease” in this section; and entries under **DENTAL**, under **HEART, BLOOD AND CIRCULATION**, and under **CHEMICAL SENSITIVITY / POISONING**. Some form of Herpes is often involved; so also see, under **VIRUSES**, *Herpes, all types*, “Herpes Virus 4 (Human Herpes Virus 4) / Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)” and “*Herpes Virus Type 5 (Human Herpes Type 5) / Cytomegalovirus (CMV) / Salivary Gland Virus*.” Also see “*Branhamella catarrhalis / Moraxella catarrhalis*” under **BACTERIA**, which can cause an inner ear infection.

Vertigo (Dizziness)

The inner ear is responsible for maintaining our sense of balance. Vertigo can be caused by an infection, head injury, neurological impairment, adrenal exhaustion, or low blood pressure. See the appropriate entry for your specific issue as well as “Brain Tumor” under **CANCER**, as dizziness is a noted symptom.

4, 5.8, 9.19, 9.2, 20, 60 + 100, 660 + 690 + 727, 787, 880

Wax, Excessive / Cerumen

Earwax (cerumen) is made by glands inside the ear canal to shield it from dust and dirt, to protect the ears from infection, and to help maintain the ear canal’s natural acid balance. Sometimes an excessive amount of earwax is produced, and unless the buildup is removed hearing can be affected. Don’t shove cotton swabs or other objects deep into the ear—you don’t want to puncture the ear drum (although a punctured ear drum can sometimes regenerate). To loosen wax, into the ear canal you can drop some warmed olive oil, mullein herbal tincture, or 3% food grade hydrogen peroxide.

311, 320 (from Dr. John Garvey), 750, 720, 984

End of Ears section.

EATING DISORDERS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

EBOLA VIRUS

See under **VIRUSES**.

ECHO VIRUS

See under **VIRUSES**.

ECZEMA

See “Dermatitis / Eczema” under **SKIN**.

EDEMA

See “Lymphedema / Edema / Dropsy / Water Retention” under **LYMPHATIC SYSTEM**.

EHRlichia / EHRlichiosis, ALL TYPES

See under **BACTERIA**.

EIKENELLA CORRODENS

See under **BACTERIA**.

ELBOW PAIN / EPICONDYLALGIA

See under **ARTHRITIS** or **INJURIES**.

ELECTRICAL SENSITIVITY, TO REDUCE

See under **REGENERATION AND HEALING**. Also see **SCHUMANN RESONANCES**.

ELECTROLYTE LEVELS, TO IMPROVE

See under **REGENERATION AND HEALING**.

ELEPHANTIASIS

See under **SKIN**.

EMOTIONAL PROBLEMS, MANY TYPES

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

EMPHYSEMA

See under **RESPIRATORY TRACT**, *Lungs*.

ENCEPHALITIS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

ENDOCARDITIS

See under **HEART, BLOOD AND CIRCULATION**.

ENDOCRINE SYSTEM, TO BALANCE AND NORMALIZE

See “General, to Balance and Normalize System,” under **GLANDS**.

ENDOMETRIOSIS

See under **WOMEN**, *Uterus, Cervix, Ovaries and Fallopian Tubes*.

ENERGY AND VITALITY, TO IMPROVE

See under **REGENERATION AND HEALING**.

ENTAMOEBA GINGIVALIS

See under **DENTAL**, *Mouth and Gums* or **PARASITES, PROTOZOA AND WORMS**.

ENTAMOEBA HISTOLYTICA

See under **PARASITES, PROTOZOA AND WORMS**.

ENTEROBIUS VERMICULARIS

See under **PARASITES, PROTOZOA AND WORMS**.

ENTEROCOCCUS, SEVERAL STRAINS

See under **BACTERIA**.

ENTEROHEPATITIS

See under **LIVER AND GALLBLADDER**, *Liver*.

ENTEROVIRUS

See under **VIRUSES**.

ENURESIS

See “Bed Wetting / Enuresis” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

ENVIRONMENTAL ILLNESS (EI)

See **CHEMICAL SENSITIVITY / POISONING**.

EPICOCCUM

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

EPIDERMOPHYTON FLOCCOSUM

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

EPIDIDYMITIS

See under **MEN, Testicles**.

EPILEPSY

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

EPSTEIN-BARR VIRUS

See under **VIRUSES**.

ERGOT

See “*Claviceps purpurea* / Ergot” under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

ERYSIPELAS

See under **SKIN**.

ERYTHEMA

See under **HEART, BLOOD AND CIRCULATION**.

ESCHERICHIA COLI

See “*E. coli* / *Escherichia coli*” under **BACTERIA**.

ESTROGEN PRODUCTION LEVELS, TO NORMALIZE (FOR BOTH MALES AND FEMALES)

See under **REGENERATION AND HEALING**.

EUGLENA

See under **PARASITES, PROTOZOA AND WORMS**.

EURYTREMA PANCREATICUM

See under **PARASITES, PROTOZOA AND WORMS**.

EUSTACHIAN TUBE INFLAMMATION

See “Eustachian Tube / Inner Ear Inflammation” under **EARS**.

EYES

The eye is a complex sphere of gel-like fluid with a transparent film (cornea) on its surface. In the front center rests the iris, a colored ring of muscle fibers that open and close like the aperture of a camera. The opening is the pupil. The lens of the eye is behind the iris, held by small muscles that tighten and relax to change the shape of the lens depending on whether an object is close or far. The retina, a light-sensitive, curved panel of cells at the rear of the eye,

Nutrients, Herbs, Antimicrobials for the Eyes

Colloidal Silver. Spray into eye often. Add half teaspoon of Willard’s Water to a 4-oz bottle for intensified benefits. Clears vision, soothes the eye, kills pathogens, neutralizes pollutants, helps cataracts and glaucoma.

Castor Oil. Reduces inflammation, kills pathogens, soothes. Safe to use directly in eye if it’s organic, and is free of hexane and other solvents and additives.

Supplements. The eyes are related to the liver, gallbladder, and gastrointestinal tract: we see the eyes turn yellow when the liver is jaundiced. Therefore, improving the digestive organs helps the eyes. Digestive aids include probiotics, hydrochloric acid, enzymes (amylase, protease, lipase and others), and ox bile or bile-stimulating herbs. Nutrients for the eyes include:

- ◆ Carotenoid supplements: astaxanthin, zeaxanthin, and lutein—yellow, orange, and red plant pigments.
- ◆ Foods high in carotenoids: salmon, krill, pastured egg yolks, carrots, squash.
- ◆ Alpha-Lipoic acid (ALA), a powerful antioxidant that helps recycle Vitamin C.
- ◆ L-Carnosine, amino acid anti-aging compound.

Christopher’s Herbal Eye Formula. Bayberry bark, eyebright, goldenseal root, red raspberry leaf, cayenne. Two to three drops in distilled water in an eye cup bring oxygen to tissues and fluids. May dissolve protein deposits, including floaters; improve near, distance and night vision; reduce swelling, burning and itching; eliminate cataracts; heal glaucoma; and reverse macular degeneration.

receives the light focused by the lens. Blinking is protective: it lubricates the eyes, and spreads antibacterial tear fluid on them. Although blinking is a reflex, it can also be controlled. When engrossed in a task, many people forget to blink.

Before light is converted into an image, it enters the cornea through the pupil in the iris, and is then projected through more fluid through the lens and onto the retina. There, the light is converted into electrical signals that are transmitted through the optic nerve and visual pathway, through the occipital cortex, to the brain. Vision processing centers for different parts of each eye exist in both sides of the brain.

Evidence from Paul Scanlan links nearsightedness with abnormal breathing patterns: the lack of pressure in the sinus cavities causes the rear of the eyeball to be misshapen. Many people have helped or completely healed their faulty vision using the Bates program of movement—breathing, taking in sun through closed eyelids, cupping the palms over closed eyelids—and some form of body-mind therapy to help deal with fear and other emotions. Exercise, adequate sleep and sunlight, and the ability to handle stress also play a huge role.

The muscles that change the shape of the lens of the eye for near and far seeing can become paralyzed and inflexible

with fright from unresolved emotional issues. The eyes are an extension of the brain, so also see the many entries under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS.**

General Range of Eye Ailments

20, 80, 160, 350, 360, 400, 496, 660 + 690 + 727, 787, 802 + 1550, 880, 1335, 1552, 1600, 1830, 2010, 10K

Acanthamoeba Keratitis

Infection of the cornea, the transparent outer covering of the eye. Caused by the amoeba *Acanthamoeba castellanii*, which lives in soil, water and air, it may result in permanent visual impairment or blindness. Contact lens wearers are at risk, as well as swimmers in polluted water. 944.404579, (experimental) 6,242,044.4544

Cataracts, all types

The clouding and hardening of the lens of the eye. The proteins may become malformed (denatured) or the eyeball fluids or naturally-occurring lipids (fats) may become dehydrated. Symptoms include blurred vision, poor night vision, glare, light sensitivity, altered depth perception, and changes in how one sees colors. People in their 40s and older are most likely to develop cataracts. In the United States alone, cataracts are expected to afflict over 30 million people by the year 2020.

There are three types of cataracts. Most common is nuclear sclerotic, the very gradual clouding and hardening or sclerosis of the central (nuclear) portion of the lens. Cortical cataract refers to cloudy areas that develop in the outer edges (cortex or periphery) of the lens: fibers become opaque, forming spoke-like fissures that cause light to scatter. Subcapsular cataract forms beneath the lens capsule, or the membrane that surrounds and contains the lens. Nuclear sclerotic cataracts most often occur during the aging process. Subcapsular cataracts can be exacerbated by steroids, statins, and other medications. However, all cataracts can be triggered by age and medications, as well as by the sun's ultraviolet radiation, diabetes, inflammation, obesity, high blood pressure, smoking, and acrylamides, which form in some starchy and protein foods that are cooked at high temperatures.

Establishment medicine has no cure for cataracts other than surgery, which might eliminate the cataract but may cause vision loss for statistically high numbers of people. However, holistic therapies may help. Cataracts appear to have two categories: those related primarily to antioxidant deficiencies and those primarily related to poor quality fats. This explains why people find success with two different therapies. The antioxidant-related therapy consists of eye drops containing N-Acetyl-Carnosine (or N-Acetyl-L-Carnosine), an antioxidant amino acid found primarily in red meat. (Can-C and Brite Eyes III, brands containing that nutrient, may also help reduce pressure from glaucoma.) The lipid (fat)-related therapy consists of using a drop of organic, solvent-free castor oil in each

eye for a few months. Physician William McGarey, former head of the Edgar Cayce clinic in Phoenix, Arizona, promoted a drop of castor oil in each eye at bedtime (amount of time unspecified) to reverse cataracts.

More older than younger people develop cataracts. They tend to have more severe nutrient deficiencies (due to poor digestion and a substandard diet that includes trans fats), with more years of toxin exposure, resulting in impaired liver function (and an inability to handle fats).

If you use a laser or LED in any form, do not shine the instrument into an open eye! Aim it on the eyelid or eye socket with your eyes closed. Otherwise, you'll make your cataract worse.

Also see **BLOOD SUGAR PROBLEMS**, "Diabetes / High Blood Sugar / Hyperglycemia" and **GLANDS, Parathyroid**, "All Disturbances." Also see **BACTERIA**, "*Mycobacterium avium* / Bird Tuberculosis," and "*Bartonella quintana* / Bartonellosis / Febris Wolhynia / Wolhynia Fever / Trench Fever / Quintan Fever / Shin Bone Fever." Richard Loyd found that this pathogen can cause cataracts (as well as macular degeneration).

This single frequency has been reported as successful: 6110, run for at least one hour.

Experimental, from Jimmie Holman. Deliver frequencies in precisely the order written, for 2 minutes each. Designed to work on Pulsed Technologies equipment, they might not be as effective when used with other machines. Repeat entire set as often as desired:

40K, 99900, 98400, 95940, 93480, 91020, 88560, 86100, 83640, 81180, 78720, 76260, 73800, 71340, 68880, 66420, 63960, 61500, 59040, 56580, 54120, 51660, 49200, 46740, 44280, 41820, 39360, 36900, 34440, 31980, 40K

This set is reported to have eliminated cataracts and improve vision. 1335 (from Dr. John Garvey), 20, 160, 350, 360, 400, 496, 660 + 690 + 727, 666, 740, 784, 787, 790, 880, 1552, 1600, 1654, 1830–1860 (sweep for at least 15 minutes), 2010, 2110, 2187, 2195, 2211, 5K, 10K, 40K

Also try: 80, 325, 774, 800, 802 + 1550, 1500–1700 (sweep, at least 1 second per frequency), 2790, 2876

Catarrh

Mucous membrane inflammation in various places including the respiratory tract, gastrointestinal tract, eyes, and uterus.

380, 802 + 1550, 880, 787, 660 + 690 + 727, 380, 444 + 1865, 20, 800

Conjunctivitis / Pink Eye

Inflammation of the conjunctiva, or mucous membranes that cover the eye and inner surfaces of the eyelids. Symptoms include redness, discharge, tearing, and the feeling that there is something in the eye. May be triggered

by infection (from a virus or bacterium), allergy (to dust, pollen), sensitivity to chemical pollutants (like chlorine), or foreign object in the eye (such as a contact lens).

Sometimes pink eye is caused by viruses and bacteria that cause colds and infections of the ears, sinuses and throat, as well as bacteria that cause sexually transmitted diseases. The same organism may also be involved in lymphogranuloma venereum (venereal disease featuring inflammation and ulceration of the lymph glands), urethritis (inflammation of the urethra or urinary tube), and proctitis (inflammation of the anus). Women need to be especially careful; the infection may result in infertility or miscarriage. If they are infected while giving birth, the pathogen can be passed to infants in the birth canal and cause eye infections and pneumonia. *Chlamydia*-induced pink eye is more common in Africa and the Middle East than in the US. New findings suggest that this organism may play a developmental role in Multiple Sclerosis and cancer, so it's important to get your condition treated. Also see **BACTERIA**, "*Chlamydia pneumoniae*"; **MEN**, **Urinary**, "Gonorrhea"; "Lymphogranuloma venereum (LGV)" under **MEN**, **Penis** or **WOMEN**, **Vagina**, **Labia and Clitoris**; and "Stye" in this section.

Conjunctivitis from *Bacillus subtilis*

From Dr. John Garvey: 432, 722, 822, 1246

Conjunctivitis from *Chlamydia trachomatis*

From Dr. John Garvey: 430, 620, 624, 840, 2213
Also try: 430, 555.7, 866, 1111.4, 2222.8

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 379700 (lowest), 381K (optimal), and 383950 (highest)

Hz set: 941.18 (lowest), 944.40 (optimal), and 951.72 (highest)

Also from Clark: 18968.87

Conjunctivitis from other sources

20, 80, 489, 660 + 690 + 727, 787, 802 + 1550, 880, 1600, 1830, 10K

Cornea Inflammation

Caused by the fungus *Fusarium oxysporum*.
102, 705

Corneal Ulcer

Caused by a scratch to the cornea. May or may not be infected. The bacterium *Propionibacterium acnes* has been implicated in infected corneal ulcers.

Sweep 5996.1–6078.1 for 20 minutes. Also run 6046.9 separately for 6 minutes.

From Dr. Hulda Clark: 19267.60, 959.28

Crossed Eyes / Diplopia / Double Vision

The muscles holding the lens of the eye are weak and the focusing mechanism is faulty, often causing double vision. Eye exercises usually help. See books on the Bates method.

First try: 20, 80, 660 + 690 + 727, 787, 802 + 1550, 880, 1830, 1600, 10K

Also try: 160, 350, 360, 400, 496, 1335, 1552, 2010

Discharge, Watery

436, 595, 775, 952

Eyelid, Droopy

This may be an indication of Lyme. Also see **PARASITES, PROTOZOA AND WORMS**, "*Ascaris lumbricoides* / Roundworm" and other entries.

10K, 40K

Floaters

Tissue that has detached from the inside of the eye and is floating in the eyeball fluid, resulting in moving spots or specks in one's visual field. *Dirofilaria*, *Onchocerca volvulus*, and *Toxocara canis* (all worms) might be involved.

Also see **LIVER AND GALLBLADDER**, often related to eye conditions. Castor oil, or Christopher's Herbal Eye Formula, may help as well (see Sidebar, page 711).

From Michael Tigchelaar: 612.40, 1001.70, 1345.84, 1861.94

1830, at least 15 minutes per day.

***Fusarium*, General**

600 + 625 + 650, 746, 768

Fusarium oxysporum

Fungus causing inflammation of the cornea.

102, 332, 705, 780, 795

Glaucoma

Pressure in the eye resulting in atrophy of the optic nerve. According to the March 2001 issue of *Ophthalmology*, researchers found a *Helicobacter pylori* infection in most people with glaucoma; so see **BACTERIA**, "*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer." Also see **BLOOD SUGAR PROBLEMS**, "Diabetes / High Blood Sugar / Hyperglycemia," as glaucoma can be related to diabetes. 660 + 690 + 727, 787, 880, 1600, 1830 (5 minutes each)

Inflammation

1.2 + 250, 80

Macular Degeneration

Deterioration of the macula (central portion of the retina)—the inside back layer of the eye that records the images we see and sends them to the brain, via the optic nerve. Macular degeneration is the leading cause of blindness in the US for people 55 and older.

Ophthalmologists are experimenting with 15 Hz (and sometimes 14 Hz) for one hour, using electrode patches (or metal wrapped in wet paper towels) near both eyes at the same time on very low power, less than one milliamp. Eyes should be slightly open. The power is turned up very slowly until the eyelids twitch and one experiences visual effects such as blinking lights. This might also help with cataracts. Also see **BACTERIA**, "*Mycobacterium avium* / Bird Tuberculosis": Dr. Loyd found that this microbe sometimes causes macular degeneration (and cataracts).

15 with electrodes for one hour; see above instructions.

Individual frequencies: 1828, 1830, 1832, 1834, 1836, 1838, 1840, 1842, 1844, 1846, 1848, 1850, 1852, 1854, 1856, 1858, 1860. Or, sweep 1828–1860.

Mite, Follicle / *Demodex folliculorum*

Mites live in the hair follicles of humans. Although generally harmless, they can cause inflammation in the eyelashes, external ears, and facial skin.

From Dr. Richard Loyd: 476, 1332.03, 1690.5

From Jimmie Holman. Deliver frequencies in precisely the order written. Designed to work on Pulsed Technologies equipment, they might not be as effective when used with other machines:

64260, 60720, 59784, 55860, 55272, 49500, 45540, 49500, 44100, 43900, 40480, 40194, 38220, 37840, 37444, 35192, 31878

From Hulda Clark: 682K or 1690.51 (for units unable to reach the KHz range)

Photosensitivity

Extreme sensitivity to light, which some people call sun allergy. This condition is a symptom of Chronic Fatigue Syndrome (CFS), but could also represent an advanced case of systemic *Candida*. It almost always indicates depleted or overextended adrenal glands. If you're taking prescription drugs, check to see if a so-called "side effect" makes people extra sensitive to the sun.

3 + 230, 330

Pink Eye

See "Conjunctivitis / Pink Eye" in this section.

Stye

Lump, due to inflammation or infection, formed at the base of an eyelash, or on or inside the eyelid. Apply castor oil. Also see the "*Staphylococcus*" entries under **BACTERIA**; and "Conjunctivitis / Pink Eye" in this section.

20, 350, 360, 453, 660 + 690 + 727, 787, 880, 1830, 2600, 10K

Trachoma

A debilitating, progressive, and very painful disease of the eyes caused by *Chlamydia trachomatis*. The eyelid becomes infected, inflamed, and thick. Then it becomes scarred

and inverts, and the razor-sharp eyelashes finally scratch the cornea, causing progressive blindness. Often the eyes become constantly teary, and the sufferer keeps the lids shut because any light that enters the sensitive eyes hurts.

The condition, primarily afflicting impoverished people living in unsanitary conditions, is spread mainly by flies that swarm around the eyes, and by infected hands and clothing. The World Health Organization estimates that this preventable, treatable disease affects about 70 million people in Africa, Latin America and Asia; and of that number, two million become permanently blind.

A simple, inexpensive operation, if done in time, can help prevent further scarring and blindness. Antibiotics (and perhaps colloidal silver) can help eliminate the infection, but they are generally unavailable to poor people. Try frequencies for both types of *Chlamydia*: *Chlamydia trachomatis* (which gives this eye condition its name, and is more commonly known for causing a sexually transmitted disease), and *Chlamydia pneumoniae*, in case both are involved.

Chlamydia pneumoniae

Run each frequency for 5 minutes.

Program 1: If your unit can't run decimals, round up or down to the nearest number. 4710.5, 470 to 472, 479, 620, 940.1, 942.9, 1880.1, 1885.9, 3760.3, 3771.7, 7520.5, 7543.4

Program 2: 471, 942, 1886, 3772, 7543

Chlamydia trachomatis

Also see main entry under **BACTERIA**.

430, 555.7, 620, 624, 840, 866, 1111.4, 2213, 2222.8

Vision, to Sharpen

266, 350, 360, 1830, 40K (for as long as desired)

End of Eyes section.

EXHAUSTION

See **FATIGUE / CHRONIC FATIGUE**.

—F—

FACIAL PARALYSIS

See "Paralysis in the Face" under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

FACIAL TONING

See under **SKIN**.

FAINTING

20

FALLOPIAN TUBE INFLAMMATION

See under **WOMEN**, *Uterus*, *Cervix*, *Ovaries and Fallopian Tubes*.

FASCIA, TO SOFTEN

See under **MUSCLES**.

FASCIOLA HEPATICA

See under **PARASITES, PROTOZOA AND WORMS**.

FASCIOLOPSIS BUSKI

See under **PARASITES, PROTOZOA AND WORMS**.

FAT ELIMINATION

See under **OBESITY / OVERWEIGHT**.

FATIGUE / CHRONIC FATIGUE

Fatigue has many causes: low iron (perhaps due to heavy bleeding from colon irritation; an abnormal menstrual cycle; a Vitamin B12 deficiency; or almost any pathogen (*Candida albicans*, *Mycoplasma*, parasites, viruses). Also check for poisoning from chemicals and heavy metals.

Besides the frequencies below, see listings related to your particular infection, condition, or affected part of the body. For fatigue that's chronic, see **VIRUSES**, "Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)." Also see entries under **REGENERATION AND HEALING**, and always run 40K to restore cell function.

20, 72, 95, 125, 428, 444 + 1865, 465, 660 + 690 + 727, 40K (for as long as you want)

FATIGUE, FROM RIFING TOO LONG

Also see **SCHUMANN RESONANCES**.

1.55, 7.83

FATIGUE, GERIATRIC / ADYNAMIA

Fatigue of age, although adynamia is generally considered to be caused by adrenal gland weakness. See other "Fatigue" entries. Also see entries under **GLANDS**, *Adrenals*.

27.5 + 220 + 410, 60 + 100

FEAR

See this and other entries under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

FEBRIS WOLHYNIA

See "*Bartonella quintana* / Bartonellosis" under **BACTERIA**.

FEET, EXCESSIVE SWEATING

See under **SKIN**.

FELINE (CAT) IMMUNODEFICIENCY VIRUS (FIV)

See under **VIRUSES**.

FELINE (CAT) LEUKEMIA

See "Leukemia, Feline" under **CANCER**.

FELON

Infection of the fingertips consisting of pus, or dead white blood cells.

First try: 657, 659, 738, 751

Also try: 663, 665, 720, 722

FEVER, GENERAL

Normal body temperature is 98.6°F (37°C). Ordinarily, with temperatures taken orally, a low fever is considered less than 101°F (38.3°C). A moderate fever is in the 102° to 103°F range (38.8° to 39.4°C). A high fever is over 104°F (40°C). Temperatures over 106°F (41.1°C) can be harmful, particularly if they are prolonged. Fever is the body's way of producing a high enough temperature to kill invading pathogens, and to mobilize various biochemicals and immune cells in the body to help with healing. So unless the fever is abnormally high or the person is very young or frail, it's a good idea to let the fever run its course. Nevertheless, killing pathogens with frequencies will help the body restore itself.

20, 422, 800, 832, 880, 787, 660 + 690 + 727, 2112

FEVER, GLANDULAR

See **VIRUSES**, "Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)." For issues pertaining to a specific gland (different from so-called Glandular Fever), see the listing for that gland under **GLANDS**.

FEVER, DUE TO SUNSTROKE

20, 440, 880

FIBROADENOMA OF BREAST

See under **WOMEN**, *Breasts*.

FIBROID CYST IN BREASTS

See under **WOMEN**, *Breasts*.

FIBROMA

See under **TUMORS, BENIGN** or **WOMEN**, *Breasts*.

FIBROMYALGIA

Fibromyalgia is a syndrome or collection of symptoms. The most prominent and major symptom is chronic, widespread pain and tenderness in the muscle fibers and connective tissue covering a large portion of the body. (An official diagnosis states that pain must be felt at over a dozen sites in all four quadrants of the body: right and left sides, above and below the waist.) Other symptoms include numbness, swelling, stiffness, aches and tingling in the tissues, limbs and joints; weakness; chronic fatigue; unrefreshing sleep; depression; anxiety; irritable colon and bladder; tension headaches; eye problems; and painful menstrual periods.

In many people, fibromyalgia is triggered or exacerbated by injury (for instance, a car accident), infections (usually

viral), hormonal imbalance, radiation and electromagnetic pollution, chemical poisoning (including drugs and smoking), nutrient starvation (as from a poor diet), allergies, or any major stress. About 90% of fibromyalgia sufferers are women. New research from neurologist Anne Louise Oaklander indicates that people with fibromyalgia suffer from damage to small nerve fibers, which causes faulty signals (and therefore pain) in nerves all over the body, including internal organs and the nerve fibers lining the blood vessels of the skin. Some now call this disorder “Small-Fiber Polyneuropathy.”

Insufficient thyroid hormone can contribute to or cause fibromyalgia. Over half the subjects who are hypothyroid suffer from excessive amounts of mucin, a sugar-protein, hydrophilic (water-loving) compound that is normally present in muscles, skin, blood vessels, nerves, and other parts of the body—including the fascia, or membranous envelopes that cover the muscles. In excess amounts, mucin damages connective tissue. Therefore, someone with fibromyalgia may be suffering from an underactive thyroid. A hypothyroid condition also contributes to fibromyalgia because an abnormally low metabolism equals an undercharged system, which will make it difficult to maintain normal body processes or retain any benefits of healing protocols, no matter how useful they might be. See **GLANDS, Thyroid**, “Thyroid, Underactive / Hypothyroidism.”

Immune dysfunction—which can be either the cause or result of infections—is also implicated in fibromyalgia. People with fibromyalgia have inadequately functioning Natural Killer T Cells (NK Cells). They suffer viral damage to calcium channels in the cellular membrane, damaged muscle fibers, and additional malfunction of the nervous and hormonal systems. In such people, intracellular magnesium and serotonin levels are low. Magnesium is needed for muscle function, and serotonin (produced during restful, not fitful sleep), is necessary for immune function.

There’s a higher than usual requirement of many nutrients. Just a few supplements that can help with one or more symptoms—such as muscle wasting, pain, joint stress, brain fog, digestive disorders, and fatigue—are magnesium, malic acid, MSM (methylsulfonylmethane), N-Acetyl Cysteine, glucosamine sulfate, and the herb *Boswellia serrata*. Enzymes may also help, taken on an empty stomach so they will be used to combat inflammation instead of digest food.

Pay attention to any possible triggering events such as an illness or accident, and treat accordingly. Mold toxins almost always cause symptoms that feel like fibromyalgia, so see various entries for mold, as well as the Insert “Mold and Lyme Toxins, and the Inflammation Response” on pages 690–691, under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

The frequencies below are compiled from M. Tigchelaar and Dr. Loyd. Also see all the “*Mycoplasma*” frequencies under **BACTERIA**, as Dr. Garth Nicolson and colleagues found these bacteria, especially *Mycoplasma fermentans*, in the blood of over 60% of people with fibromyalgia. Also see **AUTOIMMUNE DISORDERS** and **GASTROINTESTINAL TRACT, Small Intestine**, “Leaky Gut Syndrome.” Some researchers

have found a spirochete in the blood of a significant number of people with fibromyalgia, so also see **BACTERIA**, “*Borrelia*, all types / Borreliosis / Lyme Disease.” Also see **CARTILAGE PRESERVATION AND HEALING**.

Run these at least 2 minutes each: 20, 40, 120, 140, 200, 320, 321, 304, 317.6, 326, 328, 384, 420, 464, 500, 600, 660 + 690 + 727, 664, 800, 880, 900, 2128, 2180, 2489, 3176 120, 140, 304, 320, 328, 420, 464, 600, 664, 728, 787, 800, 880, 1550, 2008, 2050, 2080, 2128, 2180, 2489, 2720 (for 20 to 30 minutes), 3790, 3794, 3798, 3802, 3806, 3810, 5, 6, 9, 10K, 40K (this last one, for as long as desired)

FIBROSARCOMA

See under **CANCER**.

FIBROSIS

See under **RESPIRATORY TRACT, Lungs**.

FILARIA

See under **PARASITES, PROTOZOA AND WORMS**.

FISSURE

A groove or crack-like sore. Also see entries under **SKIN**.
787, 20, 10K

FISTULA

Abnormal tubelike passage from one bodily structure to another. Also see the “*Staphylococcus*” entries under **BACTERIA**.

660 + 690 + 727, 787, 832, 880

FISTULA DENTALIS

See under **DENTAL, Mouth and Gums**.

FLATULENCE

See under **GASTROINTESTINAL TRACT, Colon / Large Intestine** or **Small Intestine**.

FLOATERS

See under **EYES**.

FLU

See “Influenza” under **VIRUSES**.

FLUID IN JOINTS AND TISSUES, TO REDUCE EXCESS

See under **ARTHRITIS**.

FLUKES, MANY TYPES

See under **PARASITES, PROTOZOA AND WORMS**.

FLUORIDE, DETOXIFYING FROM

Fluoride is a halogen, in a class of chemicals (including chlorine and bromine) that displaces iodine on the cell receptor sites. Replenishing the body’s iodine in large amounts will help pull the fluoride out of the tissues and sauna and other therapies will help the body excrete the

fluoride; read *The Iodine Crisis* by Lynne Farrow. Also see “Mercury, Aluminum, and Other Contaminants” under **CHEMICAL SENSITIVITY / POISONING**.

FOLLICULAR MANGE AND FOLLICU

See “Mange / Follicular Mange / Scabies” under **SKIN**.

FOLLICULITIS

See under **SKIN**.

FOOD POISONING

See “Botulism / *Bacillus botulinum*” under **GASTROINTESTINAL TRACT, Systemic Conditions**, and all of the “*Salmonella*” entries under **BACTERIA**.

FOOT AND MOUTH DISEASE

See “*Aphthovirus* / Foot and Mouth Disease / Hoof and Mouth Disease” under **VIRUSES**.

FRACTURES OF BONES

See under **BONE AND SKELETON**.

FRANCISELLA TULARENSIS

See under **BACTERIA**.

FREQUENCY DISTRESS

Not due to detoxification, but from rifting for too long.

1.55, 7.83

FRIGIDITY / IMPOTENCE, MANY TYPES

See “Sexual Function” under **MEN** or **WOMEN**.

FROSTBITE

See under **INJURIES**.

FROZEN SHOULDER

See “Shoulder, Frozen” under **INJURIES**.

FUNGUS

See “General Fungus / Molds / Yeasts” under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

FUNNELIFORMIS MOSSEAE

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

FURUNCULOSIS HERPES

See under **SKIN**.

FUSARIUM, ALL TYPES

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

FUSOBACTERIUM, ALL TYPES

See under **BACTERIA**.

—G—

GALLBLADDER ISSUES, ALL

See all entries under **LIVER AND GALLBLADDER, Gallbladder**.

GANGRENE

The rotting of soft tissue, due to frostbite, injuries, boils, or poor circulation. Also see **BACTERIA**, “*E. coli* / *Escherichia coli*,” and circulation frequencies under **HEART, BLOOD AND CIRCULATION**.

1.1 + 73, 20, 660 + 690 + 727, 787, 880

GARDNERELLA

See under **BACTERIA**.

GAS, INTESTINAL

See “Flatulence / Intestinal Gas” under **Colon / Large Intestine** or **Small Intestine**, both under **GASTROINTESTINAL TRACT**.

GASTRIC CANCER

See “Stomach Cancer” under **CANCER**.

GASTRITIS

See under **GASTROINTESTINAL TRACT, Stomach and Esophagus**.

GASTRO-ESOPHOGEAL REFLUX DISEASE (GERD)

See “Acid Reflux / Gastro-Esophageal Reflux Disease (GERD)” under **GASTROINTESTINAL TRACT, Stomach and Esophagus**.

GASTROINTESTINAL TRACT

The digestive tract is a huge muscular tube extending about thirty feet from the mouth to the anus. Lining the entire tract is soft mucous membrane that protects the tubing from foreign substances. (Food is foreign until the body breaks it down and makes it a part of its own tissue.) The musculature’s involuntary, smooth, rhythmical, wave-like movement (peristalsis) pushes the food down the esophagus or food tube to the stomach, down to the small intestine, and then to the colon or large intestine.

Digestion begins in the mouth, as enzymes in saliva break down starches into simple glucose. The taste and even smell of food stimulate increased production of saliva and signal the other digestive organs to be ready to receive food—so it’s important to chew well, leaving food in the mouth as long as possible. Chewing also breaks down the indigestible cellulose coating of fruits and vegetables, liberating the nutrients. Chewing also creates more surface area on the food so digestive enzymes can break it down further. Once the food travels down the esophagus (food tube) and through a small sphincter to the stomach, the stomach churns the food and combines it with more digestive enzymes so it becomes a relatively smooth, thick fluid called chyme. The chyme moves through the opening at the lower end of the stomach

The Importance of Healing the Gut

The autonomic (automatic) nervous system has two parts: *sympathetic* (involved in fear, anxiety and dehydration) and *parasympathetic* (involved in calm, relaxation, and hydration). The sympathetic nervous system dominates in all chronic health problems, degenerative or infectious. Illness equals anxiety.

Sympathetic dominance causes poor digestion, so that even with a healthy diet, the body doesn't produce enough digestive enzymes. The large intestine—which normally extracts water from the food remnants—now diverts its blood supply to the muscles to allow subjects to fight or flee; so the colon's ability to extract water is limited. Greasy sludge then accrues on the intestinal lining, leading to inflammation that causes leaky gut. Protein particles enter the bloodstream and migrate to tissues, causing irritation and allergies. Leaky gut is a stagnant gut—the perfect breeding ground for intestinal parasites and fungus (such as *Candida albicans*), which feed on waste in the digestive tract.

Eliminating worms and *Candida* is only one step to becoming healed. The parasympathetic and sympathetic nervous systems must be balanced. If they're not, pathogens can proliferate again.

(pyloric valve) into the first section of the small intestine, or duodenum. Carbohydrates enter the small intestine first, then proteins, and then fats. Digestion and assimilation primarily occur in the first two sections of the small intestine. Then the material moves through the ileocecal valve, located at the end of the small intestine, and then into the colon or large intestine. Whatever undigested material is left leaves the small intestine and enters the large intestine as a very thick paste. The remaining usable liquid is absorbed, after which the waste collects in the rectum at the end of the large intestine, to finally leave the body through the anus.

The gut—the overall term for the digestive organs—shares an interesting relationship to the central nervous system: they both evolved independently from the same embryonic tissue. The human digestive tract and the spinal cord each contain over one million nerve cells. In fact, the digestive system contains more nerve cells (as the enteric nervous system) than the peripheral nervous system. Major brain neurotransmitters (including serotonin, dopamine, norepinephrine, nitric oxide, and glutamate) are in the gut when food is present.

The brain and the gut are also linked by the vagus nerve, a kind of “neural cable” that's the longest of all cranial nerves. The vagus nerve travels from the brain stem, through the neck and chest organs, to the abdomen. The abdominal cavity is literally a second brain, and gives physiological and biochemical validity to what we call “gut feelings.” The gut produces, and sends to the brain, pain-alleviating and mood-

altering chemicals similar to those found in drugs (or rather, the drugs attempt, unsuccessfully, to duplicate the effects of the biocompatible compounds that are naturally produced by the body.) It's not yet known whether the gut synthesizes the chemical, benzodiazepine, from compounds in foods, from bacterial action on the food, or both. By the way, serotonin in the gut catalyzes peristalsis. Drugs such as Prozac®, which divert serotonin from the intestinal tract to the brain, cause digestive disturbances.

There are about ten thousand different beneficial intestinal bacteria living in symbiosis with their host. These friendly flora produce enzymes, vitamins, and beneficial acids that aid digestion. The delicate balance of the digestive tract can be unfavorably altered by toxins that include antibiotics, chlorine, fluoride, food additives, preservatives, caffeine, and hard-to-digest foods. Scientists discovered that eliminating grains, dairy, and processed sugars from the diet (except raw honey, which has natural germicidal properties) often healed people with inflammatory bowel disease (IBD). Although only IBD was being studied, common sense states that the findings include all gastrointestinal issues.

Many conditions in the digestive tract are either caused by, or contribute to, an overgrowth of yeast and a deficiency of beneficial flora. Yeasts thrive on sugar and carbohydrates, displacing the flora that help us digest our food. Moreover, the carbohydrates induce a bodily response to create mucus, which adheres to the intestinal wall. This impedes the peristalsis of the entire intestinal tract.

The gut is the second brain. Stress contributes to poor digestion and can cause the stomach to shift its position: even a small shift can impair the production of hydrochloric acid, necessary to digest protein. Poor digestion allows pathogens to proliferate, which impedes nutrient absorption even more. Poor digestion equals poor elimination, causing gas, inflammation, severe infections, and possibly colon irritation. To those deprived of proper nourishment, the world may seem like a place where needs can never met.

Also see the following most common pathogens involved in all gastrointestinal disorders: **CANDIDA, FUNGI, MOLDS AND YEASTS**, *Candida albicans*; *Campylobacter*, *E. coli*, *Helicobacter pylori*, and *Salmonella*, all under **BACTERIA**; and frequencies for the various *Giardia* pathogens under **PARASITES, PROTOZOA AND WORMS**.

Systemic Conditions

General

The frequencies below are for pathogens that could be anywhere in the digestive tract. However, don't rely on these alone; see specific listings as well.

3.9, 4.9, 20, 72, 95, 125, 422, 450, 660 + 690 + 727, 664, 676, 784, 787, 802 + 1550, 832, 880, 1552, 2008, 2127.5

Actinomyces bovis / Actinomycosis

The *Actinomyces bovis* fungus causes Actinomycosis, an infection of the brain, lungs, gastrointestinal tract or jaw.

1.1 + 73, 20, 160, 220, 465, 787, 660 + 690 + 727, 10K

Adenovirus Infection

Causes symptoms in the lungs, stomach, and intestines. Also see **VIRUSES**, “Adenovirus, all types.”

First try: 333 + 523 + 768 + 786, 666, 959, 962

Also try long set if the above isn't sufficient: 20, 26, 48, 60, 72, 95, 125, 160 (for 5 minutes), 180, 300, 333 + 523 + 768 + 786, 444 + 1865, 522, 555, 660 + 690 + 727, 787, 802 + 1550, 880, 942, 952, 959, 962, 959 to 969, 1395 (for 5 to 10 minutes), 1500, 2050, 2720, 4868, 5K, 6989, 7001, 7009, 7702, 7762, 7767, 10K, 40K

Amoebic Dysentery / *Entamoeba histolytica*

Entamoeba histolytica is a dangerous protozoan that causes amoebic dysentery, an infection of the liver and digestive tract. Symptoms include severe diarrhea, ulcerated open wound, fever, and blood in the stool. Also see “*Salmonella*” and “*Shigella*” under **BACTERIA**.

First try (from Dr. Garvey): 148, 166, 308, 393, 631, 778
From Dr. Hulda Clark: 19168.02, 954.32

Also try: 333 + 523 + 768 + 786, 465, 660 + 690 + 727, 787, 802 + 1550, 832, 880, 1552 for co-infections.

Botulism / *Bacillus botulinum*

Botulism is a well-known and often fatal form of food poisoning from *Bacillus botulinum*. Symptoms include nausea and vomiting, intense abdominal cramping, fatigue, headache, difficulty swallowing, distorted vision, diarrhea, paralysis, and later shock and unconsciousness which lead to death. This bacterium, which produces a potent neurotoxin, can proliferate from spoiled food that has either been improperly canned or left unrefrigerated in hot weather. Also see **BACTERIA**, “*Salmonella*” and **CHEMICAL SENSITIVITY / POISONING**.

172, 518, 533, 639, 660 + 690 + 727, 683, 691, 802 + 1550, 831, 1372, 1552, 10K

Candida / Yeast

An infection of fungal and yeast forms has rightly been called the runaway illness of the late 20th century. Most Americans are afflicted by an overgrowth of yeast that ordinarily exists in very small amounts in the digestive tract but which, due to poor diet, stress and antibiotics, proliferates and crowds out beneficial bacteria. Fungal overgrowth causes a vast array of conditions including, but not limited to: faulty digestion; mood swings; overweight; cravings for sweets, alcohol or carbohydrates; depression; blurry vision; slurred speech; poor motor coordination; and an inability to focus or remember.

Yeast has been implicated in diseases ranging from hypoglycemia to cancer. According to many holistic practitioners, it is always present in AIDS and chronic fatigue syndrome. To control yeast, follow a diet of mostly fresh vegetables and some animal protein, with

a minimum of carbohydrates (starch and grains). Avoid yeast-ridden or fermented substances such as soy sauce, vinegar, cheese, alcohol, and yeasted breads (which are riddled with fungal spores). Don't eat sugar, even what naturally occurs in fruits, because fungi and yeasts—like most harmful microbes—thrive on sweet and starchy foods, which are rapidly metabolized.

Although most people call their systemic or digestive fungal infection “Candida” (short for the Latin *Candida albicans*), there are actually many different types of fungi. They all manifest differently in the body. Because unwanted fungi are prevalent in the system and can mimic so many other conditions, you may want to run fungus and yeast frequencies as part of a general gastrointestinal program. Make sure to see “*Candida albicans*” and related entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**. Remember that fungi and yeast indicate an advanced stage of fermentation within the body—the organism is literally molding—so you will need to pay careful attention to diet and acid/alkaline balance (pH). There is no single pH that's optimum for all of the tissues (see Chapter 1, pages 17–20), so see a nutritionist who is versed in metabolic typing if you need assistance.

Fermentation in the body leads to parasites and worms; so try the **PARASITES, PROTOZOA AND WORMS** frequencies along with detoxification protocols (see Chapter 3). For reference, see *The Yeast Connection*, *Candida* and *The Candida Albicans Yeast-Free Cookbook*.

Catarrh

Mucous membrane inflammation in various places including the respiratory tract, gastrointestinal tract, eyes, and uterus.

20, 380, 444 + 1865, 660 + 690 + 727, 787, 800, 802 + 1550, 880

Constipation

Digestive tract conditions can indicate the presence of *Candida albicans* and other fungal forms. See “Diarrhea and/or Constipation” in this section. Also see the many entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

20, 422, 660 + 690 + 727, 776, 787, 802 + 1550, 832, 880

Cramping

If the cramping is due to food poisoning, digestive disturbances or infection, rifting can help. But cramping from appendicitis requires great caution and care—see “Appendicitis” under **GASTROINTESTINAL TRACT, Colon / Large Intestine**. Also see the many entries under **PARASITES, PROTOZOA AND WORMS**; under **WOMEN, Menstruation and Menopause**; and applicable listings in this section.

4.9, 20, 26, 72, 95190, 660 + 690 + 727, 787, 832, 880, 10K, 40K

Diarrhea and/or Constipation

Diarrhea and constipation reflect an unbalanced digestive tract. They can be caused by pathogens and/or the toxins they excrete; insufficient numbers of friendly flora (which help us digest our food and even manufacture some vitamins); and mineral (electrolyte) deficiencies, which prevent the proper digestion and assimilation of food. Antibiotic drugs—which include tetracycline, amoxicillin and erythromycin—also disrupt the gut because they kill the friendly flora. While discontinuing the drugs can stop the diarrhea, you'll need probiotic supplements to help restore colon health. If you are taking medications, consult your health care provider to see if any of the medications list diarrhea or constipation as a negative "side" effect.

Food allergies and intolerances can cause abdominal disturbances, usually due to proteins that the body cannot break down into usable components. Common allergens include dairy (especially pasteurized and homogenized), soy, eggs, chocolate, citrus fruits, shellfish, and some nuts. Gluten, a protein molecule in grain that gives it an elastic texture, may cause Celiac disease, whose symptoms include recurring diarrhea and malabsorption (see Chapter 3, Food). Difficulties with fats, causing constipation, diarrhea, nausea and bloating, indicate liver and/or gallbladder issues; so see **LIVER AND GALLBLADDER**, *Liver*, or **LIVER AND GALLBLADDER**, *Gallbladder*.

Bacteria, viruses, fungi and parasites can also cause nausea, vomiting, constipation, and diarrhea. Over 134 worms and parasites alone can live in the human body. Autopsy reviews show that parasites may contribute to as much as 75% of all illness, although ordinary diagnostic tests may not detect their presence. Worms often contain bacteria, which in turn contain viruses. So even if the worms are killed, you must still deal with the smaller microorganisms that play a role in the symptom picture.

Under **BACTERIA**, see "*Campylobacter*," "*E. coli* / *Escherichia coli*," "*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer," "*Salmonella* / Food Poisoning," "*Shigella*," and "*Staphylococcus pyogenes aureus*." Under **CANDIDA**, **FUNGI, MOLDS AND YEASTS**, see "*Candida albicans*." Under **PARASITES, PROTOZOA AND WORMS**, see "*Entamoeba histolytica* / Amoebic Dysentery," "*Blastocystis hominis* / Blastocystosis," "*Clostridium difficile* / Pseudomembranous Colitis," "*Cryptosporidium parvum* / Cryptosporidiosis," "*Giardia duodenalis* / Giardiasis," "*Giardia lamblia* / *Giardia intestinalis* / Giardiasis," "*Strongyloides stercoralis* / Threadworm," and "*Trichuris trichiura* / Whipworm." Under **VIRUSES**, see "Adenovirus all types," "Norwalk Virus," and "Rotavirus."

Also see, under **GASTROINTESTINAL TRACT**, *Colon* / **Large Intestine**, "Crohn's Disease" and "Colitis / Irritable Bowel Syndrome (IBS)."

Diarrhea from Dysentery

See "Amoebic Dysentery / *Entamoeba histolytica*" in this section.

Food Poisoning

See "Botulism / *Bacillus botulinum*" in this section and "*Salmonella*" under **BACTERIA**.

Giardia duodenalis / Giardiasis

The one-celled *Giardia duodenalis* lives in the intestines of animals and people worldwide, causing giardiasis, a common water-borne illnesses. Common symptoms include abdominal cramps, nausea, and watery diarrhea. There are many strains of the *Giardia* microorganism but no publicly known frequencies for *Giardia duodenalis*. Get them at dnafrequencies.com. Also try *Giardia lamblia*.

Giardia lamblia / *Giardia intestinalis* / Giardiasis

This protozoan found in the intestinal tract is the most frequent cause of non-bacterial diarrhea in North America. Infection is usually caused by drinking contaminated water or eating produce washed in contaminated water. Watery diarrhea usually occurs within a week of ingestion. Other symptoms include intestinal cramping, nausea, gas, and weight loss. Most susceptible are children and those with weak immunity. Disease normally lasts one to two weeks, although chronic infections may last months or even years.

Giardia survives best in a cool moist environment. Several strains have been found, causing more or less severe symptoms depending on the person's constitution. 334, 407, 812, 829, 1K, 2018, 4334, 5429

These frequencies are from Jeff Sutherland.

adults 430531; *larvae* 231350; *eggs* 110110

Dr. Sutherland emphasizes that the following frequencies must be used in the following sequence: 430531, 231350, 110110, 231350, 430531, to ensure that the life cycle of the parasite is completely disrupted and all stages are caught and destroyed. Sweep 200–300 Hz to accommodate the individuality of the terrain.

From Dr. Hulda Clark. Use the Hz set for units unable to reach the KHz range. With such a wide frequency range, you may want to sweep.

KHz set: 421400 (lowest), 424K (optimal), and 426300 (highest)

Hz set: 1044.55 (lowest), 1050.99 (optimal), and 1056.69 (highest)

Also from Clark: 21109.72

Indigestion / Dyspepsia

Indigestion is often caused by *Candida albicans* and parasites. The *Candida* displaces helpful intestinal bacteria, and the parasites use up nutrients that should go to the host. In addition to trying the frequencies below, see **CANDIDA, FUNGI, MOLDS AND YEASTS**, "*Candida albicans*" and relevant entries under **PARASITES, PROTOZOA AND WORMS**.

4.9, 7.83, 20, 72, 95, 125, 444 + 1865, 465, 660 + 690 + 727, 787, 802 + 1550, 880, 10K, 40K

Laxative Effect, mild

802 + 1550

Malabsorption Syndrome

Microbial overgrowth, infections, metabolic and glandular disturbances, nutritional deficiencies, and mechanical obstruction in the bowel can prevent the proper absorption of nutrients in the digestive tract. Supplement your diet with friendly intestinal flora. Consider doing colonics and consult a holistic health practitioner. Also see **PARASITES, PROTOZOA AND WORMS**, “General (unspecified)”; **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*Candida albicans*”; and other applicable entries in this section.

660 + 690 + 727, 787, 800, 802 + 1550, 880, 1552, 3K

Nausea

If the nausea is from appendicitis, this requires caution—see “Appendicitis” under **GASTROINTESTINAL TRACT, Colon / Large Intestine**. Also see other applicable entries in this section and the many entries under **PARASITES, PROTOZOA AND WORMS**.

4.9, 20, 26, 72, 95, 190, 660 + 690 + 727, 787, 832, 880, 10K, 40K

Pain

There can be many causes. See **PAIN**.

Protozoa, Specific

See the **PARASITES, PROTOZOA AND WORMS** section.

Salmonella

See under **BACTERIA** (there are too many *Salmonella* strains to list here).

Streptococcus enterococcinum

Often present with digestive and urinary tract infections.
409, 686

Typhoid Fever

See “*Salmonella typhi* / Typhoid Fever” in this section.

Worms, Specific

See the **PARASITES, PROTOZOA AND WORMS** section.

Colon / Large Intestine

The colon or large intestine is the bottommost portion of the digestive tract. Five to six feet long with a diameter of about two inches, it's shorter than the small intestine, but being thicker and wider, it's considered “large.” The colon is divided by sharp turns into three major parts: the ascending colon (running vertically on the right side of the body), the transverse colon (running horizontally from right to left across the upper abdomen), and the descending colon (running vertically on the left side of the body, ending in the rectum). The colon squeezes every

Nutritional Support for the Digestive Tract

- ◆ **Digestive Enzymes.** With each meal, take amylase to break down starch, protease to break down proteins, and lipase to break down fats. Also take hydrochloric acid, which digests proteins, to supplement what the stomach produces (or doesn't).
- ◆ **Probiotics.** Replenish some of the friendly flora. Keep in mind that the healthy human intestinal tract contains many more beneficial bacteria than what can be taken in supplements.
- ◆ **L-glutamine.** As a powder, this amino acid helps heal the intestinal wall. It also curbs carbohydrate cravings and builds muscle.
- ◆ **Aloe Vera.** The inner leaf heals, soothes and repairs the mucous membranes. The outer leaf is a laxative.
- ◆ **Slippery Elm Bark.** Taken as a powder, mixed in water and drunk immediately, it soothes and heals the mucous membrane lining of the gut.
- ◆ **Activated Charcoal and Clay.** Bind to toxins in the gut; can be used in cases of food poisoning (see Chapter 3, **Detoxification**).

bit of salvageable water and electrolytes from food residue and excretes all waste—undigested food, dead bacteria, toxins, etc.—through the anus.

The colon's environment is naturally alkaline. Its many pockets and folds can trap *Candida albicans* and parasitic worms—as well as fecal material on which they feed—and help them proliferate. If the colon is clogged with waste, many problems can arise: constipation, diarrhea, blood in the stool, abdominal tenderness and cramping, hemorrhoids, abscesses, lethargy, loss of appetite, and sometimes joint pain, skin rashes, eye inflammation, kidney stones, and liver dysfunction.

There are many disorders of the colon. “Inflammatory Bowel Disease” is the overall term for colon inflammation, which is then divided into two presumably discrete illnesses called ulcerative colitis and Crohn's disease. Colon diseases are categorized according to which portions of the colon are affected. Normally, Crohn's is considered more serious than other colon conditions, as it involves all layers of the large intestine wall, sometimes parts of the small intestine, and even the stomach and esophagus.

What ultimately matters isn't the medical term, but how well food is being digested and assimilated, and the overall health of the digestive tissue. Many doctors recommend eliminating foods that can irritate the intestinal tract. This includes hot spices; dairy; high-caffeine chocolate and coffee; high-gluten grains (wheat, rye, barley and spelt); corn; oranges and other citrus fruits; nightshades (tomatoes, potatoes, eggplant and peppers); high-fat foods; fake foods, including aspartame; and even raw vegetable fiber, which can irritate the

mucosal membrane until the lining of the gut heals.

All colon problems can be helped by replenishing the beneficial flora. For more details on colon health and probiotics, see Chapter 3, **Detoxification**. Also see “*Blastocystis hominis* / Blastocystosis” in this section.

Abdominal Inflammation

Use these frequencies if you don't know the cause. Also see “Abdominal Pain” and “Colitis / Irritable Bowel Syndrome (IBS)” in this section.

1.2 + 250, 20, 72, 95, 105, 125, 146, 380, 428, 440, 444, 450, 465, 660 + 690 + 727, 776, 787, 791, 802, 832, 880, 1550, 1600, 1800, 1865, 2000, 2170, 2489, 2720

Abdominal Pain

General frequencies to use if you don't know the actual microbial cause. Also see “Abdominal Inflammation” and “Colitis / Irritable Bowel Syndrome (IBS)” in this section.

3, 95, 2720, 3K, 10K, 40K

Anus, Itching / Pruritus

Also see **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*Candida albicans*,” as this fungus tends to overgrow in the digestive tract and can cause anal itching. Also try “*Chlamydia trachomatis*” under **BACTERIA, MEN, Urinary** or **WOMEN, Vagina, Labia and Clitoris**; and “General (unspecified)” and “*Enterobius vermicularis* / Pinworm / Seatworm” under **PARASITES, PROTOZOA AND WORMS**.

20, 95, 72, 120, 125, 146, 333 + 523 + 768 + 786, 444 + 1865, 465, 522, 555, 660 + 690 + 727, 760, 773, 787, 802 + 1550, 826, 827, 835, 880, 2K, 3040, 3176, 4152, 10K

Appendicitis

The appendix is a tiny twisted tube sloping from the right side of the colon. It was once considered obsolete with no function; but now, scientists recognize that the appendix plays a vital role in the body's immune response. Specialized lymphoid follicles in the appendix produce antibodies to prevent the bacteria in the colon from infecting the small intestine and bloodstream (among other areas), particularly in early life. The appendix also helps encourage the maturation of B lymphocytes (a type of immune cell). Moreover, this tiny appendage stores (and may produce) beneficial flora, which help digest food. If dysentery, cholera, or a similar infection wipes out the beneficial flora, the appendix reserves are used to repopulate the digestive tract.

Appendicitis is inflammation of the appendix. Symptoms often include intense abdominal pain,

nausea, vomiting, fever, and increased pulse. Until recently, the conventional medical establishment (and certainly the public) believed that appendicitis indicated the presence of an intestinal blockage, and that unless the appendix was removed via surgery, it would burst and the person would die. Most conventionally trained doctors recommend avoiding eating and drinking (not that you'll want to eat or drink anyway), and to go to an emergency room immediately to receive lifesaving surgery. However, not everyone with an inflamed appendix has a blockage. In fact, many do not, which is why appendicitis sometimes heals on its own.

Research conducted since 2007 suggests that at least 70% of appendicitis subjects can avoid surgery by taking antibiotics—which used to be the treatment before surgery prevailed. Although antibiotics don't always eliminate infection, and there's a possibility of a repeating infection, surgery is much more risky, and has a higher death rate. According to Dr. Paulina Salminen of Turku University Hospital in Finland, a CT (computed tomography, also called a CAT scan) can accurately detect whether the appendix is merely inflamed or whether there's a blockage. If there is inflammation only, in most cases antibiotics (or other protocols to eliminate pathogens) are sufficient. If there's a structural impediment, or a possibility that the appendix may rupture, surgery is a more viable life-saving option. Almost 80% of appendicitis cases fall into the “inflammation only” category.

Aside from the obvious risks associated with surgery, keeping one's appendix is an advantage, considering what we now know about the organ's role in immunity. In people with their appendix intact, the recurrence rate of a *Clostridium difficile* infection is 18%. Those who have had the appendix removed suffer a recurrence rate of 45%.

One medical doctor reported that his friend with an appendicitis attack avoided both surgery and antibiotics by using an electromedical device that poured voltage (current) directly into the abdominal area, thus stimulating the cells to function correctly. (The same might be accomplished with a soft laser or LED, but I have not seen studies to corroborate this.) Everyone is different. If you are diagnosed with appendicitis, consult a doctor who is open to treating you with antibiotics or natural substitutes.

The frequencies below are good for after surgery or while you are awaiting surgery. Also experiment with frequencies for other infectious organisms. Obtain a diagnosis first so you know what to target.
10, 20, 72, 95, 522, 125, 146, 190, 380, 440, 444 + 1865, 450, 600 + 625 + 650, 660 + 690 + 727, 787, 802 + 1550, 804, 807, 880, 1570, 1770

***Blastocystis hominis* / Blastocystosis**

A one-celled intestinal parasite, *Blastocystis hominis* causes acute diarrhea and abdominal pain, often found in colitis or Irritable Bowel Syndrome. Also see “*Dientamoeba fragilis*” and “Pinworm / Seatworm / *Enterobius vermicularis*” in this section, as these parasites often appear together.

First try: 595, 13469

Then try: 210, 365, 844, 848, 1201, 1243, 5777, 11425, 11841, 11967, 13145, 13469, 21776

Cancer of the Colon

See “Colon Cancer” under **CANCER**.

***Clostridium difficile* / Pseudomembranous Colitis**

A bacteria that actually forms spores in the colon, *Clostridium difficile* produces a toxin that causes frequent, foul smelling, watery diarrhea. With more severe symptoms—bloody and mucus-filled diarrhea, abdominal cramps, and even abnormal heart rhythm—the condition is called pseudomembranous colitis. In some instances, this pathogen can migrate to the brain and cause autism in children. These conditions usually develop after the ingestion of antibiotics; the beneficial intestinal flora are overpowered by *Clostridium difficile* and other pathogenic bacteria.

387, 635, 673

Colic

Spasm in any hollow or tubular soft organ, particularly the colon. Because babies are the ones who suffer from colic, it might be inferred from this listing that it is all right to give infants rife sessions. Because an infant’s immune function is not fully developed, I advise you to monitor the baby closely, and seek professional help. Also try **PARASITES, PROTOZOA AND WORMS**, “*Giardia lamblia*” and “General (unspecified).”

10, 20, 422, 465, 660 + 690 + 727, 787, 802 + 1550, 832, 6766

Colitis / Ulcerative Colitis / Irritable Bowel Syndrome (IBS)

This condition features inflammation and disturbed muscular movement of the colon. It’s commonly accompanied by other symptoms, which can include constipation and/or diarrhea, cramps, heartburn, bloating, back pain, weakness, and faintness. Colitis can affect males and females (mostly adults), and is particularly susceptible to appearing during periods of unrelenting stress.

Lactose intolerance or allergy, the inability to digest foods that contain lactose (milk sugar), can easily cause symptoms that are very similar to those

of IBS. So if you’re eating dairy products, avoid them for at least three months and see if your condition improves. (Whereas pasteurized and homogenized dairy is poison, many, if not most, people can handle raw dairy or fermented raw dairy. See Chapter 3, **Food**, for more information.) Likewise, gluten in grains can cause equally severe symptoms; so the same suggestion applies for all glutinous grains.

There may be an emotional component. To help discharge anger and other emotions, consider psychotherapy, meditation, and stress reduction techniques. Also try the mineral lithium orotate (not the drug lithium carbonate; they are very different), which is rightly regarded as one of the most important nutrients for the brain. Because the majority of “brain” biochemicals are in the gut, lithium is worth considering. Also see **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

Also see “Crohn’s Disease” in this section and **PARASITES, PROTOZOA AND WORMS**, “*Blastocystis hominis* / Blastocystosis,” as this one-celled parasite is often found in people with colitis.

20, 105, 440, 660 + 690 + 727, 787, 791, 802 + 1550, 832, 880, 10K, 40K

Colon Function, to Balance and Normalize

8, 440, 635, 880, 2500

Colon Inflammation

See “Colitis / Ulcerative Colitis / Irritable Bowel Syndrome (IBS)” in this section.

Crohn’s Disease / Inflammatory Bowel Disease (IBD)

Colon disorders are classified in part according to which areas of the colon are affected. Inflammatory Bowel Disease (IBD) describes colon inflammation, which establishment medicine divides into two presumably discrete illnesses called colitis (also called “ulcerative colitis”) and Crohn’s disease. Crohn’s is considered more serious than the others, as it involves all the layers of the large intestine wall, sometimes parts of the small intestine, and even the stomach and esophagus (the food tube in the throat).

Crohn’s consists of serious inflammation that causes abdominal tenderness and cramping, bloody diarrhea, hemorrhoids and abscesses, flatulence, lethargy, loss of appetite, and even joint pain, skin rashes, eye inflammation, kidney stones, and liver dysfunction. According to some sources, Crohn’s and IBD have an autoimmune component, in which immune cells attack the body’s own tissues.

There is very likely an emotional component as well. To help discharge anger and other emotions, consider psychotherapy, meditation, and stress reduction techniques. Also try the mineral lithium

orotate (not the drug lithium carbonate; they are very different), which is rightly regarded as one of the most important nutrients for the brain. The majority of “brain” biochemicals are in the gut, so any body-mind approach should be considered. See the beginning of this **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS** section for more details.

These colon disorders have multiple causes. In 1993, researchers at the Royal Free Hospital in London found a chronic, live measles virus infection in ulcerated parts of the colon in subjects with Crohn's. The virus apparently triggered an immune response that damages the colon's blood vessels. (Subjects are also discovered to be deficient in Vitamin A.) A 2010 study was the first of several in which researchers found *Mycobacterium paratuberculosis* (which causes chronic inflammatory bowel disease in cattle) in 100% of Crohn's subjects. In 2017, researchers at Case Western Reserve University in Cleveland, Ohio, discovered two bacteria and one fungus, plus their biofilms, in Crohn's subjects: *Candida tropicalis*, *Serratia marcescens*, and *Escherichia coli*.

Also see “Colitis / Irritable Bowel Syndrome (IBS)” in this section. You may also want to see various applicable entries under **PARASITES, PROTOZOA AND WORMS**. However, it's worth running the frequencies that we know: under **BACTERIA**, *E. coli* / *Escherichia coli* and “*Mycoplasma*, many types” (because *Mycoplasma* infections are often the beginning of autoimmune conditions); and **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*Candida tropicalis*.” There are no publicly available lists for *Serratia marcescens*, but you can obtain its frequency from dnafrequencies.com.

Some users have found exponential benefits when augmenting Rife therapy with *Cryptolepis sanguinolenta*, a potent antimicrobial herb from Africa and Southeast Asia. It's available as a tincture. First try: 14, 20, 333 + 523 + 768 + 786, 440, 660 + 690 + 727, 802 + 1550, 810, 832, 880, 2K, 10K, 40K

Also try: 95, 60 + 100, 110, 428, 600 + 625 + 650, 680, 776, 787, 3K

Dientamoeba fragilis

A parasite that lives in the large intestine of humans, possibly related to *Trichomonas*. Many people are asymptomatic. When symptoms do occur, they include diarrhea, nausea, stomach pain and cramps, loss of appetite and weight, and fatigue. Children from 5 to 10 years old are most commonly affected.

The infection, common worldwide, presumably remains in the intestine without spreading to other parts of the body. More than one stool sample may

be needed to detect the parasite. It is spread through improper sanitation, and contaminated water and food, so wash hands after using the toilet.

Pinworm eggs can protect *Dientamoeba fragilis*, so the two microbes are often found together. Also see **PARASITES, PROTOZOA AND WORMS**, “Pinworm / Seatworm / *Enterobius vermicularis*.”

1001.42, 20113.98

Diverticulosis / Diverticulitis

Tiny pockets of intestinal tissue protruding through the muscular wall of the colon.

From Jimmie Holman. The Pulsed Technologies research team emphasizes the need for nutritional supplementation to help repair and rebuild tissues. (Some of their frequencies encourage repair.) Deliver frequencies in precisely the order written. Note that they might not work on units other than those manufactured by Pulsed Technologies:

12371.18, 20703.13, 24742.36, 24742.36, 26062.5, 27200, 27283.76, 28553.13, 29440, 29446.4, 30720, 32K, 32648.42, 34406.83, 34898.69, 35K, 36K, 38517.04, 39618.38, 40K, 41020, 41406.25, 45125, 45250, 45568.75, 47850, 48K, 48352.92, 48625, 48640, 48893.75, 49275, 49484.73, 49484.73, 49500, 49762.5, 52125, 54400, 54567.51, 57106.25, 58880, 58892.8, 61440, 64K, 65296.84, 68813.66, 69797.38, 70K, 72K, 77034.08, 79236.75, 80K, 82040, 90250, 90500, 91137.5, 95700, 96K, 96705.83, 97250, 97280, 97787.5, 98550, 98969.45, 99K, 99525

Short session; run for 5 minutes each: 154, 934 (from Dr. John Garvey). Then sweep from the 400 to 600 range for a minimum of 30 minutes.

Enterohepatitis

Inflammation of bowel and liver.

552, 932, 953

Flatulence / Intestinal Gas

Incompletely digested food creates gas that can be emitted from either the anus or mouth. Indigestion is often caused by *Candida* and parasites. The *Candida* overgrowth displaces helpful intestinal bacteria, and the parasites steal nutrients that should be available to the host. If these frequencies are not sufficient, see **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*Candida albicans*” and applicable entries under **PARASITES, PROTOZOA AND WORMS**.

20, 422, 465, 660 + 690 + 727, 676, 760, 787, 802 + 1550, 832, 880

Fluke, Intestinal

Worm appearing in the intestines and other places. 524, 854 (both from Dr. John Garvey), 15, 55, 651, 676, 844, 848, 2084, 2128, 2150, 6766

Gas, Intestinal

See “Flatulence / Intestinal Gas” in this section.

Hemorrhoid

Inflamed, swollen veins in the rectum (last section of the large intestine) that sometimes protrude outside the anus (the opening at the very end of the rectum). Symptoms may include bleeding, pain, itching, and irritation around the anus. Hemorrhoids, affecting both males and females, can be exacerbated by those who are constipated (and straining to have a bowel movement), elderly people, and pregnant women.

One effective remedy is homeopathic *Hamamelis virginiana*, dosage 6C, 12C or 30C, one pellet taken several times daily. Along with this, drinking aloe vera juice daily will help restore the lining of the digestive tract. Supplement with rutin and other flavonoids to help strengthen the blood vessels.

Other ways to shrink and eliminate hemorrhoids include: external applications of witch hazel, aloe vera, apple cider vinegar, tea tree and/or thyme essential oils diluted in coconut or olive oil, and clay packs to which apple cider vinegar and essential oils can be added. I would not rely solely on frequencies for this condition.

447 (from Dr. John Garvey), 660 + 690 + 727, 802 + 1550, 774, 880, 4474, 6117

Inflammatory Bowel Disease (IBD)

See “Crohn’s Disease / Inflammatory Bowel Disease (IBD)” in this section.

Inflammatory Bowel Syndrome (IBS)

With the many “diseases,” “syndromes” and “inflammatory” conditions of the colon, it’s no wonder that even doctors become confused by all these diagnostic labels. IBS isn’t classified as a true disease, so see “Crohn’s Disease / Inflammatory Bowel Disease (IBD)” in this section. Also see entries for your particular symptoms and pathogens, if you can get a diagnosis.

Intestinal Cancer caused by *Fasciolopsis buski*

See “Intestinal Cancer” under **CANCER**.

Intestine Inflammation

See “Colitis / Ulcerative Colitis / Irritable Bowel Syndrome (IBS)” in this section.

Irritable Bowel Syndrome

See “Colitis / Ulcerative Colitis/ Irritable Bowel Syndrome (IBS)” in this section.

Peritonitis

Inflammation of the membrane that lines the abdominal cavity, caused by infection or injury (such as perforation of the intestine). Symptoms include abdominal swelling and tenderness, severe pain, weight loss, constipation, vomiting, hiccups, and fever. Also see other entries in this section. Some sources believe that pathogens other than bacteria can cause this condition, so see applicable entries under **CANDIDA, FUNGI, MOLDS AND YEASTS** and under **PARASITES, PROTOZOA AND WORMS**.

Soothe the intestines with aloe and slippery elm bark. Don’t rely solely on the frequencies below. Also see other **GASTROINTESTINAL TRACT** entries.

From Dr. Richard Loyd: 867 (for peritonitis caused by *Porphyromonas gingivalis*, which is also prevalent in severe oral infections)

From Dr. Marty Monahan: 435, 775, 474, 529, 727, 787, 800

Also try: 660 + 690 + 727, 880

Pinworm / Seatworm / *Enterobius vermicularis*

Infests the intestinal tract. Also see “*Dientamoeba fragilis*” in this section.

422, 423, 732, 733, 827, 835, 4412

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 420950 (lowest), 423K (optimal), and 425300 (highest)

Hz set: 1043.43 (lowest), 1048.51 (optimal), and 1054.21 (highest)

Also from Clark: 21059.93

Proctitis

Inflammation and often infection in the lower portion of the colon. Symptoms can include discharge of mucus, pus or blood; anal and/or rectal pain and itching; the need to suddenly defecate; constipation or diarrhea; rectal bleeding; and fever.

This condition has many causes. See “Crohn’s Disease,” “Colitis / Irritable Bowel Syndrome (IBS),” and other entries in this section. Also see, all under **BACTERIA**, “*Campylobacter*,” “*Chlamydia*” entries, “*Neisseria gonorrhoeae* / *Gonococcus* / Gonorrhea,” “*Salmonella*,” “*Treponema pallidum* / Syphilis,” and “*Shigella*”; **VIRUSES**, “*Herpes*”; and **PARASITES, PROTOZOA AND WORMS**, “*Entamoeba histolytica* / Amoebic Dysentery.”

Trichomonas hominis

A protozoan parasite found in the intestines, causing diarrhea and dysentery. The *Trichomonas* frequencies below are for those in the genital tract. For more frequencies, go to dnafrequencies.com.

610 + 692 + 980

Tuberculosis

This highly infectious airborne disease is popularly known for affecting the lungs. However, swelling and tumor-like welts of tissue may appear not only in the lungs, but also in the meninges (the membrane around the spinal cord) and the intestines. Other symptoms include fever, cough, and difficulty breathing. The list below is abbreviated. There are many frequencies for both the disease and what are regarded as “secondary infections” springing from the disease, so also see **TUBERCULOSIS, ALL TYPES**.

First try: 369K (for the rod form, possibly used on Royal Rife’s #4 machine)

Then try: 21508.01, 2127.5, 1070.82, 660 + 690 + 727

Then try: 20, 221, 333 + 523 + 768 + 786, 465, 532, 590, 776, 787, 799, 800, 801, 802 + 1550, 803, 804, 1132, 1500, 1600, 1644, 2008, 2313, 3353, 6516

Ulcerative Colitis

See “Colitis / Ulcerative Colitis / Irritable Bowel Syndrome (IBS)” in this section.

Small Intestine

The small intestine, coiled into the abdominal cavity, is about one inch in diameter, 25 feet long, and—with its thousands of tiny hairlike projections (villi) embedded in the mucous membrane—a surface area of about 300 square yards, larger than a tennis court. It has three sections. The first twelve inches is the duodenum. The second portion, about ten feet long, is the jejunum. The third section, about fifteen feet long, is the ileum. The environment in the small intestine is alkaline.

Most digestion and assimilation occurs in the first two sections of the small intestine through the villi. Each villus contains capillaries through which small, broken-down food particles are absorbed and sent into the bloodstream, where they are then sent to all the cells of the body. The duodenum secretes a gastric hormone called cholecystokinin (CCK) when it receives fat- or protein-rich chyme from the stomach. (Chyme is partially digested food, in the form of a thick liquid paste.) CCK stimulates the digestion of fat and protein by causing the release of digestive enzymes from the pancreas and the release of bile from the gallbladder.

Wheat and other glutinous grains cause damage to the villi, even in people who don’t have Celiac disease. For

more information, see Chapter 3, **Food**, which contains the Insert “Wheat: Not a Healthy Choice” on page 313.

Bacillus subtilis

Found in the gastrointestinal tract of humans and ruminants, it survives high heat and causes cramps, nausea and vomiting, and diarrhea. It also causes eye infections.

From Dr. John Garvey: 432, 722, 822, 1246

Cancer of the Intestine

See “Intestinal Cancer” under **CANCER**.

Cholera / *Vibrio cholerae*

Vibrio cholerae causes cholera, a highly contagious infection of the small intestine. Symptoms include copious watery diarrhea—which can quickly lead to severe dehydration—vomiting, muscle cramps, and weakness. Cholera is rarely transmitted by person-to-person contact, but by contaminated water and food (often raw and improperly cooked seafood). Bacteria are found in salt water and near plankton. Epidemics have appeared in Russia, Iran, Iraq, Bangladesh, India, West Africa, Latin America, Indonesia, and other east Asian countries.

Most people manage this disease by drinking to replenish their bodily fluids. However, some become so dehydrated that fluids must be given intravenously. Keeping food clean and washing hands after going to the toilet are paramount.

First try: 843, 844 (both from Dr. John Garvey), 330, 556, 591, 660 + 690 + 727, 691, 968, 1035

Also try: 450, 802 + 1550, 787, 880

Duodenal Ulcer

See “*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer” under **GASTROINTESTINAL TRACT, Stomach and Esophagus**.

***Enterobius vermicularis* / Pinworm / Seatworm**

Infests the intestinal tract.

422, 423, 732, 733, 827, 835, 4412

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 420950 (lowest), 423K (optimal), and 425300 (highest)

Hz set: 1043.43 (lowest), 1048.51 (optimal), and 1054.21 (highest)

Also from Clark: 21059.93

Enterohepatitis

Inflammation of intestine and liver.

552, 932, 953

Flatulence / Intestinal Gas

Flatulence is the result of incompletely digested food, which creates gas that is emitted from the anus (rather than the mouth, in which case it's known as a burp). Indigestion is often caused by *Candida* and parasites. The *Candida* overgrowth displaces helpful intestinal bacteria, and the parasites eat nutrients that should go to the host. If these frequencies are not sufficient, see "*Candida albicans*" under **CANDIDA, FUNGI, MOLDS AND YEASTS** and applicable entries under **PARASITES, PROTOZOA AND WORMS**.

20, 422, 465, 660 + 690 + 727, 676, 760, 787, 802 + 1550, 832, 880

Fluke, Intestinal

Worms appearing in the intestines and other places.
15, 55, 524, 651, 676, 844, 848, 854, 2K, 2084, 2128, 2150, 6766

Gas

See "Flatulence / Intestinal Gas" in this section.

Leaky Gut Syndrome

Hyper-permeability of the intestinal wall. Due to the weakened structure and abnormally large spaces between the cells, partially digested material and toxins—which would normally be broken down and eliminated—leak into the bloodstream. Symptoms include headaches, bloating, gas, and brain fog.

Contributors to leaky gut syndrome include parasites; enzyme deficiencies; drugs (such as antibiotics, which destroy the helpful intestinal flora and encourage fungal growth); preservatives and other chemicals in food; improper diet (caffeine, soda, alcohol, sugars, excess carbohydrates and junk food); and pathogens that excrete toxins. All of these irritate and weaken the lining of the digestive tract. Avoid grains, dairy products, and sweeteners.

Herbs that help the intestinal tract heal itself include aloe vera, comfrey, and slippery elm. Supplement with beneficial intestinal flora. There are hundreds of strains in the gut, so take a variety.

See "*Candida albicans*" and other entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**; "*Helicobacter pylori* / Peptic (Stomach) Ulcer" and other entries under **BACTERIA**; and the many entries under **PARASITES, PROTOZOA AND WORMS**.

Peptic Ulcer

See "*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer" under **GASTROINTESTINAL TRACT, Stomach and Esophagus**.

Peritonitis

See under **GASTROINTESTINAL TRACT, Colon / Large Intestine**.

Trichomonas hominis

A protozoan parasite found in the intestines, causing diarrhea and dysentery. The *Trichomonas* frequencies available are for those found in the genital tract, which might be the same microorganism.

610 + 692 + 980

Tuberculosis

This highly infectious airborne disease is popularly known for affecting the lungs. However, swelling and tumor-like welts of tissue may appear not only in the lungs, but also in the meninges (the membrane around the spinal cord) and the intestines. Other symptoms include fever, cough, and difficulty breathing. The list below is abbreviated. Since there are so many frequencies for both the disease and what are regarded as "secondary infections" springing from the disease, also see **TUBERCULOSIS**.

First try: 369K (for the rod form, possibly used on Royal Rife's #4 machine)

Then try: 21508.01, 2127.5, 1070.82, 660 + 690 + 727

And then try: 20, 221, 333 + 523 + 768 + 786, 465, 532, 590, 776, 787, 799, 800, 801, 802 + 1550, 803, 804, 1132, 1500, 1600, 1644, 2008, 2313, 3353, 6516

Ulcer, Duodenal and Stomach

See "*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer" under **GASTROINTESTINAL TRACT, Stomach and Esophagus**.

Stomach and Esophagus

The sac-like stomach, heavily lined with mucous membranes, sits between the esophagus and the first part of the small intestine on the left side of the abdominal cavity. The stomach does not absorb nutrients from digested food (this occurs in the small intestine), but breaks down food into smaller molecules so they can be easily absorbed into the blood. When empty, the stomach (contracted and folded over on itself) has a volume of about one-and-three-quarter ounces (50 milliliters). When full, the stomach can expand to about one quart (or liter).

Each of the stomach's five sections contains different cells and functions. Stomach glands secrete hydrochloric acid, whose acidic environment activates the secretion of pepsin which digests protein. The stomach lining itself is impervious to corrosion from hydrochloric acid. About two to three quarts (liters) of gastric fluid are secreted daily. The same stomach cells that create hydrochloric acid also produce a protein called the intrinsic factor, necessary

for the assimilation of vitamin B12. The lower part of the stomach is highly acidic. Once the food moves into this section, carbohydrate digestion temporarily stops. This is why it's so important to chew food well, especially starch and sugars. The alkaline saliva in the mouth is well suited for digesting these carbs.

Like the salivary glands in the mouth, the esophagus secretes alkaline compounds to lubricate the food, allowing for a smoother passage to the stomach.

Acid Reflux / Gastro-Esophageal Reflux Disease (GERD)

Inflammation (sometimes bleeding) of the esophagus mucous membrane lining, triggered by excessively acidic or alkaline fluids, bile, or food entering upwards from the stomach. This condition may be due to a hiatal hernia or improper closure of the esophageal sphincter (which when working properly, prevents the upwards movement of the stomach's contents). Eat more frequent and smaller meals, walk after eating, and don't eat just before lying down. If symptoms are caused by a sliding hernia (the stomach out of position), drink a full glass of water immediately after rising and then jump up and down. See a good chiropractor who can adjust your stomach and put it back into place.

Over-the-counter or prescription antacids can make this problem worse. Lack of sufficient stomach acid impedes digestion of food and absorption of nutrients. The root problem must be addressed.

Sometimes this condition is caused by *Staph* or *Strep* infections in the hiatal sphincter. So see the "*Staphylococcus*" and "*Streptococcus*" entries under **BACTERIA**; and "*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer" and "Hiatal Hernia" in this section.

Duodenal Ulcer

See "*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer" in this section.

Duodenitis

Inflammation of the duodenum, upper part of the small intestine that connects to the stomach and receives pancreatic secretions and bile from the liver to aid digestion.

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***Fasciolopsis buski* or Fluke**

A flatworm implicated in stomach ulcers. Dr. Hulda Clark found that a majority of her clients with cancer harbored the *Fasciolopsis buski* parasite. When the parasite was eliminated, the cancer did not progress. If the parasite returned, so did the malignancy.

15, 55, 2K

From Dr. Hulda Clark: 21607.59, 1075.78 (adult and eggs), and 21508.01, 1070.82 (larvae)

Gastric Cancer

See "Stomach Cancer" under **CANCER**.

Gastritis

Inflammation of the stomach. Gastritis can be caused by a disease as serious as cancer to something less immediately dangerous, like an excess or (more commonly) a deficiency of hydrochloric acid (a secretion necessary to digest protein). It is important to determine the cause of the inflammation.

20, 422, 465, 660 + 690 + 727, 676, 760, 787, 802 + 1550, 832, 880

Gerd

See "Acid Reflux / Gastro-Esophageal Reflux Disease (GERD)" in this section.

Heartburn

Acid rising from the stomach to esophagus causes a burning sensation. Can be caused by an abnormally positioned stomach, in which case it needs to be pushed back into place—by a chiropractor trained in this technique or someone else (including you, though it's harder to do this on yourself). Another cause can be an insufficient supply of hydrochloric acid in the stomach. This causes the undigested food to ferment, causing solids and fumes to rise. Try nutritional supplements, including digestive enzymes (with supplemental hydrochloric acid), or herbs (including turmeric, fennel, ginger, and milk thistle) to stimulate stomach secretions and bile flow. See "Hiatal Hernia" in this section.

20, 72, 95, 125, 444 + 1865, 465, 660 + 690 + 727, 685, 787, 802 + 1550, 832, 880, 1500, 1600, 1800, 2127.5, 2170, 2720

***Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer**

An ulcer is a sore, often filled with pus (decayed white blood cells). Most people who say "ulcer" mean the sore in the mucous membrane stomach lining or the duodenum (upper part of the small intestine that connects to the stomach). *Helicobacter pylori* can cause stomach cancer and can be present in glaucoma and arthritis. It's transmitted to and from people, dogs, cats, sheep, gerbils, and pigs.

Adjunctive therapies include colloidal silver, oregano essential oil, the probiotic *Lactobacillus salivarius*, and New Zealand Manuka (tea tree) honey. The honey should be labeled *UMF 15+* for "Unique Manuka Factor," which designates its antibacterial strength. Mastic gum tincture

from the *Pistacia lentiscus* tree works very well. Suppressed emotions such as anger inhibit gastric juice secretion which allows pathogens to grow, so consider psychotherapy. Also see “*Fasciolopsis buski* / *Intestinal Fluke*,” this section, which is also implicated in stomach ulcers. If the frequencies below don’t help, see a very different set under **BACTERIA**, “*Helicobacter pylori*.”

Most numbers below are from Dr. Loyd. To be thorough, sweep 1 Hz on each side of the main signal.

First try: 676 (20 minutes), then sweep 675–677

Then try: 321, 333, 346, 347, 352, 355, 368, 414, 432, 440, 487, 523, 558, 578, 693, 695, 705, 717, 728, 786, 878, 880, 2167, 2779, 2819, 2950, 3220, 8395.5, 10667, 1116.79, 1120.4, 1127.71, 11251.87, 14079.69, 14217.19, 14125

Also sweep 450550–454950

Hiatal Hernia

The stomach, abnormally displaced upward into the diaphragm cavity, which can lead to all kinds of digestive complications. Here’s a self-manipulation technique to help reposition the stomach, taught by a chiropractor friend of mine: Drink a full glass of water immediately after rising, and then jump up and down. Or, ask a chiropractor to teach you how to reposition the stomach manually.

Sometimes a hiatal hernia is due to *Staph* or *Strep* present in the hiatal sphincter. If this is the case, see “*Staphylococcus*” and “*Streptococcus*” entries under **BACTERIA**, and do sessions every day for at least a week to ensure that the pathogens are completely killed. Also see “*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer” in this section.

Hyperacidity of Stomach

This often mislabeled symptom picture is due to the stomach’s lack of hydrochloric acid (essential for digesting protein), which makes the stomach too alkaline and causes protein food to ferment because it’s not being digested. The fermentation causes burning, erroneously associated with over-acidity. (High alkalinity can cause a burning sensation which feels similar to the burning caused by high acidity.) Hydrochloric acid deficiency is easily corrected with nutritional supplementation.

7.82, 3 + 230, 20, 30

Hypoacidity of Stomach

Insufficient hydrochloric acid; see above.

20

Peritonitis

See under **GASTROINTESTINAL TRACT, Colon / Large Intestine**.

Shigella

A disease usually transmitted through contaminated food, and also the name of the disease-causing bacterium, which infects the gastrointestinal tract and causes nausea, vomiting, diarrhea, fever, abdominal pain, headache, dehydration, and blood, pus or mucus in the stool. Also see **GASTROINTESTINAL TRACT, Systemic Conditions**, “Amoebic Dysentery / *Entamoeba histolytica*.”

26, 621, 762, 769, 770, 802 + 1550, 832

From Hulda Clark: 390089 or 966.93 (for units unable to reach the KHz range) and 19421.39

Stomach Cancer

See under **CANCER**.

Ulcer, Duodenal and Stomach

See “*Helicobacter pylori* / Peptic (Stomach) and Duodenal Ulcer” in this section.

End of Gastrointestinal Tract section.

GENETICALLY ENGINEERED SEEDS

A rifer purchased some bell peppers and found small black seeds in them. Normal bell pepper seeds are white, not black. The black seeds are caused by the so-called terminator gene, a feat of genetic engineering that renders the seeds sterile. The rifer accidentally left the seeds about four feet from a radiant plasma frequency machine. After an undetermined number of sessions, she noticed that the seeds had become white and puffy. Some had even started to sprout. She has since planted these seeds (I don’t know if they produced peppers). Frequencies were run for three minutes each, the number of sessions unknown. We don’t know if the seeds sprouted due to the specific frequencies, or the radiant energy.

Also try the healing and regeneration frequency, 40K.

20, 72, 95, 125, 444, 465, 727, 787, 802, 880, 1865

GEOTRICHUM CANDIDUM

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

GERD / GASTRO-ESOPHOGEAL REFLUX DISEASE

See “Acid Reflux / Gastro-Esophageal Reflux Disease (GERD)” under **GASTROINTESTINAL TRACT, Stomach and Esophagus**.

GERIATRIC ADYNAMIA

Fatigue of age, although adynamia is generally debilitation caused by weakness of adrenal glands.

27.5 + 220 + 410, 60 + 100

GERMAN MEASLES

See “*Rubella* / German Measles / 3-day Measles” under **VIRUSES**.

Animals Naturally Use Frequencies

Many fish are able to detect prey using their lateral system as a sort of antenna. Shrimp vibrate at 40 hertz, the frequency their archenemy Pagothenia, an Antarctic fish, is tuned to. Pagothenia hones into the shrimp's wavelength and goes directly to its next meal. The shark is very sensitive to frequencies around 200 hertz, which is, coincidentally, the same as the vibrations of a helicopter rotor. Rescues at sea are made more dangerous by the song of the rotor blades summoning sharks in the area to the scene.

—Warren Thomas and Daniel Kaufman
Dolphin Conferences, Elephant Midwives, and Other Astonishing Facts about Animals (1990)

GIARDIA INTESTINALIS / GIARDIA LAMBLIA

See “*Giardia lamblia* / *Giardia intestinalis* / Giardiasis” under **PARASITES, PROTOZOA AND WORMS**.

GINGIVITIS

See under **DENTAL, Mouth and Gums**.

GLANDERS

See under **RESPIRATORY TRACT, Throat and Lymph Nodes**.

GLANDS

The word “gland” refers to endocrine or ductless glands that secrete hormones—chemical messengers that travel through the bloodstream to give instructions to distant organs. The endocrine system links the brain to the organs that control metabolism, growth, development, and reproduction. This section deals with the structures in the body that secrete hormones: the adrenals, pancreas, parathyroid, pineal, pituitary, thymus, and thyroid. The male sex glands are addressed under **MEN, Testicles** and the female sex glands are addressed under **WOMEN, Uterus, Cervix, Ovaries and Fallopian Tubes**.

The endocrine system does not include the exocrine glands, which are salivary and sweat glands, and those in the gastrointestinal tract. The “glands” referred to in the phrase “swollen glands” are actually lymph nodes. Listings related to lymph glands and lymphatic tissue can be found under **LYMPHATIC SYSTEM**, and under **RESPIRATORY TRACT, Throat and Lymph Nodes**.

For detailed information about each gland, see the particular alphabetized entry. Note that fever of the adrenal, pineal, pituitary, thymus and thyroid glands, are entirely different from the disease called glandular fever.

General, to Balance and Normalize All Glands

1537, 40K (use 40K for as long as you want)

Adrenals

The adrenals, a pair of small, triangle-shaped glands, sit in the abdominal cavity, one on top of each kidney. Their name indicates this position: *ad* means “near” or “at,” and *renal* pertains to the kidneys. Each adrenal is more like two separate glands, because it's comprised of two parts and each part secretes different hormones with different functions. The adrenal medulla is at the center of the mass. The cortex, which comprises over 80% of the gland and produces over 50 different types of hormones, surrounds the medulla.

The medulla is the main source of the “stress response” catecholamine hormones—epinephrine (adrenaline) and norepinephrine, discussed in detail shortly.

The main output of the adrenal cortex consists of various corticoids, which include aldosterone and cortisol. Aldosterone regulates the body's salt balance and hence blood pressure. Cortisol normalizes blood sugar levels and is anti-inflammatory—except when its levels are too high, in which case it contributes to inflammation (and suppresses the immune response). Cortisol levels are designed to be highest in the early morning, gradually declining until nighttime (thus allowing for sleep). Then the levels gradually rise, reaching their peak in the early morning. When the timing of cortisol output is skewed, this is usually caused by a sleep deficit or disturbance, improper diet, and/or stress.

All hormones from the cortex are synthesized from cholesterol. (This is a good reason not to be afraid of eating high-cholesterol foods; and besides, most of the cholesterol in the body is made by the liver.) The cortex is a secondary source of androgens such as testosterone. When the male and female reproductive organs aren't producing sex hormones—such as during menopause or andropause (male menopause)—the cortex will produce these hormones in small amounts. However, the cortex was never meant to completely take over the job of the ovaries and testes. If there's a huge demand by the body, the cortex can overcompensate, and produce too much sex hormone. This can result in hot flashes.

The adrenals are intimately connected to the hypothalamus, the part of the brain that sends messages to the nervous system when there's danger. The adrenals are also intimately connected to the pituitary, which controls all the other glands. The relationship between these three is commonly referred to as the hypothalamic-pituitary-adrenal (HPA) axis. Stressors are first processed by the brain and central nervous system, which sends various messages to the adrenals. If these feedback pathways are malfunctioning, if they overreact, or if the stressor is unrelenting, the adrenals are negatively affected. Stress has the most impact on whether the adrenals remain healthy and do their job, or if they malfunction.

Adrenaline is released during acute stress and cortisol is released during chronic stress. Faced with either emotional

exertion (danger or perceived danger) or physical exertion, both the adrenal cortex and medulla produce and blend their respective hormones in specific ratios. Effects of adrenaline (epinephrine) and norepinephrine include increased heart rate, blood vessel constriction, dilation of the bronchioles in the lungs, muscle tightness, and increased metabolism. We know this pattern as the fight-or-flight response, based on biologists' observations that an animal either fights or flees when faced with danger.

Dr. Hans Selye described the three stages of stress as follows. (1) The alarm reaction, where the body detects the external stimuli. (2) Adaptation, where the body engages defensive countermeasures against the stressor. (3) Finally exhaustion, where the body has depleted its defenses. Frustrating and scary situations are usually stressful. Challenging situations can promote growth, especially if they're interesting, but they can be stressful if they're too intense or occur for too long. When one's stress tolerance is surpassed (and everyone is different), the adrenals start to malfunction. Considering how many hormones the cortex secretes and the number of functions it performs, it's not surprising that it's the cortex portion of the adrenals that tends to become the most debilitated, the soonest.

The main signs of adrenal fatigue include feeling tired for no reason; cravings for salt, sweets and stimulants; and feelings of being overwhelmed. Other signs can be blood sugar imbalances; hair loss; vertical ridges on fingernails; anxiety, nervousness or panic attacks; memory loss; rapid heartbeat; weakened immune response; muscle cramping in odd places; unexplained hair loss; acid reflux and indigestion; headaches; and light-headedness and dizziness when rising from a seated or lying down position (both related to undesirable low blood pressure). Michael and Dorine Lam in *Adrenal Fatigue Syndrome*, and Alan Christianson in *The Adrenal Reset Diet*, distinguish between early-stage adrenal issues and the life-threatening late-stage adrenal exhaustion. When the adrenal glands are initially stressed, the person may be unaware that problems exist at all. It's important to pay attention to symptoms that might initially seem insignificant, as it will be much harder later to repair these hardworking glands. People in the later stages of adrenal stress—more aptly called adrenal exhaustion—suffer from constant chronic fatigue, even after a good night's sleep. Late-stage adrenal stress sufferers are more likely to develop hypoglycemia, hypothyroidism, Irritable Bowel Syndrome, fibroids, autoimmune conditions, and even Lyme disease and cancer. One prominent sign is weight gain in the abdominal region, which is dangerous because extra unhealthy fat chokes the internal organs.

Some of the worst foods to eat are those containing caffeine: coffee, chocolate, colas and tea, which adrenally stressed people tend to crave. Caffeine may temporarily provide energy, but it's energy that's stolen from the body's own organs; and ultimately the adrenals—along with the liver and kidneys—will be even more stressed and perhaps

Nutrients and Herbs for the Adrenals

Rebuilding the adrenals takes time. Natural or functional medicine uses *adaptogens*—substances that help the organism respond appropriately to stress or a changing environment—to help with external stressors (such as toxins in the environment) and internal stressors (such as anxiety and insomnia).

- ◆ **Ashwagandha**
- ◆ **Astragalus Root**
- ◆ **Cordyceps Mushroom**
- ◆ **Eleuthero** (mistakenly also called "Siberian ginseng")
- ◆ **Gulancha** (*Tinospora cordifolia*)
- ◆ **Holy Basil**
- ◆ **Licorice Root** (do not use if you have hypertension)
- ◆ **Picrorhiza kurroa Root**
- ◆ **Rhodiola rosea Root**
- ◆ **Stinging Nettle**

To restore strength, the following are also used:

- ◆ **B Vitamins, especially pantothenic acid (B5)**
- ◆ **Trace Minerals**
- ◆ **Vitamin C** (about half of all Vitamin C intake is used by the adrenals)
- ◆ **Celtic or Himalayan Salt** (the adrenals require quite a bit of salt in order to function properly)

damaged. Some people should avoid bananas, dates and raisins due to their high potassium levels. Malfunctioning or tired adrenal glands require a strict diet of real, organic food, low in carbohydrates, with small amounts of complex carbs eaten in the afternoon and a bit more eaten at night. Exercise is beneficial, but it can make adrenal exhaustion worse for those who are suffering from an advanced stage. For people who are alternately tired and wired, moderate exercise is key; for those whose adrenals are crashed (a much more severe problem), gentle walking suffices. For all stages of adrenal distress, regular sleep and rest are crucial for healing. The previously mentioned books suggest foods and exercise for different stages of adrenal distress.

The Emotional Freedom Technique (EFT™) and many types of meditation have a high success rate in reducing stress and relieving physical and emotional problems. See Chapter 3 and Appendix A for more information.

Also see entries under **GLANDS, Thyroid**; **GLANDS, Pituitary**; and other related glands; **BLOOD SUGAR PROBLEMS**; and **BACTERIA**, "*Mycoplasma*, many types," because *Mycoplasma* infection has been associated with adrenal dysfunction. Also see **BACTERIA**, "*Borrelia*, all types / Borreliosis / Lyme Disease," as Lyme has become a worldwide epidemic and is one of the most severe adrenal stressors.

Addison's Disease / Primary Adrenal Insufficiency / Hypocortisolism

Only one in about 100,000 people have this rare condition, characterized by the inability of the adrenals to produce enough cortisol or (less often) aldosterone. The majority of the time, the cause is an autoimmune condition in which the body's immune cells attack the adrenals. Sometimes this condition is caused by a chronic serious infection. Occasionally, a steroid hormone medication such as prednisone is the culprit. Very occasionally, the problem lies with the pituitary gland or hypothalamus—in which case doctors refer to this as *secondary* adrenal insufficiency.

Symptoms, which usually (though not always) appear gradually, may include extreme fatigue, abdominal pain, nausea, diarrhea, weakness, loss of appetite and weight, low blood sugar, lightheadedness and fainting, craving for salt, muscle and joint pain, irritability and depression, darkening of the skin, loss of body hair, and sexual dysfunction. The subject is in crisis, and in danger of acute adrenal failure, when s/he experiences lower back pain, low blood pressure, vomiting and diarrhea severe enough to lead to dehydration, high potassium and low sodium levels, and eventual loss of consciousness. This is a serious illness that can lead to death.

With this condition, the glands are structurally dysfunctional and the person requires hormone medication to substitute for what the glands are unable to produce. Therefore, make sure to see a skilled health practitioner; these glands need much more than frequencies! However, you can supplement your medical care and experiment, at your own risk, with frequencies for “Adrenal Function, to Balance and Normalize,” and “Adrenal Gland Fever and Toxicity,” below.

Adrenal Function, to Balance and Normalize

20, 537, 1335, 2250, 10K, 40K

Adrenal Gland Fever and Toxicity

Compared to the other frequencies, 24K is untested. 20, 10K, 40K, 24K

Cushing's Syndrome / Cushing's Disease / Hyperadrenocorticism / Hypercortisolism

A relatively rare disorder of the adrenal glands caused by the production of too much cortisol, an adrenal corticosteroid hormone. Symptoms in humans may include upper body obesity, thinning arms and legs, fragile thin skin that bruises easily, weakened bones and muscles, severe fatigue, high blood pressure, and high blood sugar. Irritability, anxiety, and depression are also common. Women may have excess hair growth and men may have

decreased fertility. Children tend to be obese with slowed growth rates, but adults age 20 to 50 years are most commonly affected. In dogs, this condition is common. Symptoms include increased thirst, urination and appetite; panting; high blood pressure; hair loss; weakening of the heart and skeletal muscles; and susceptibility to skin infections and diabetes.

This condition is often caused by an abnormality such as a tumor (usually benign and occasionally cancerous), either on the adrenal glands or the pituitary. Normally, the hypothalamus part of the brain sends a hormone to the pituitary gland, which in turn secretes a hormone that stimulates the adrenals to produce cortisol. Cortisol performs vital tasks, such as maintaining cardiovascular function, reducing the body's inflammatory response, and regulating metabolism. However, too much of this hormone can produce the opposite effects. If any structure in the cortisol biofeedback production loop does not work properly, the body will produce excess corticosteroids.

Cushing's can also be caused by prednisone or other drugs. The possible involvement of the hypothalamus suggests emotional trauma. Establishment medicine advocates the surgical removal of tumors and cortisol-lowering drugs.

There are no known frequencies for this condition. You can try other entries, but please see a holistic doctor, naturopath, or osteopath!

Panic Attacks

Sudden intense anxiety, occurring repeatedly and with no discernable cause. This results from years of fight-or-flight adrenal response—the release of epinephrine (adrenaline)—which has become automatic and unconscious. Normally, adrenaline is released to prepare the body for physical activity (flight), which is accompanied by increased heart rate, rapid breathing, and sweating. However, because no strenuous activity is occurring, the person is left with only the symptoms: breathing difficulties, pounding heartbeat, chest pains, dizziness, flushing, lightheadedness, nausea, sweating alternating with chills, and tingling or numbness in the face. The emotional corollary is terror, fear of losing control, and feelings of dissociation or disconnection from one's body and environment. Some sources estimate that almost 2% of the American population suffers from this disorder, half of them before age 24. It appears to affect twice as many women as men.

Panic attacks indicate adrenal exhaustion. There are no frequencies specifically for this condition, but see other entries in this section, and check for other glands or systems that could be involved. Also see

BLOOD SUGAR PROBLEMS, “Hypoglycemia / Low Blood Sugar / Hyperinsulinism,” as this may also lead to panic attacks.

Pancreas

The pancreas is a small elongated organ in the abdominal cavity near the stomach. Its head is close to the duodenum and its tail extends toward the spleen. The pancreas is a primary gland involved in blood sugar disorders because it produces insulin. This hormone, which is secreted directly into the bloodstream, precisely regulates the amount of glucose that circulates through the blood at any given time. The multifaceted pancreas also secretes pancreatic juice, which contains many different substances including enzymes. The enzyme lipase digests fats, amylase digests carbohydrates, and trypsin and chymotrypsin digest proteins. The pancreas also secretes alkaline sodium bicarbonate (baking soda), which it sends to the small intestine. The sodium bicarbonate neutralizes the acidic chyme (broken down food) from the stomach, and protects the fragile enzymes in the small intestine.

Holistic doctors administer pancreatic enzyme supplementation to dismantle the coating of tumors, which is highly successful in the treatment of cancer.

For conditions involving blood sugar levels that are too high (diabetes) or too low (hypoglycemia), see **BLOOD SUGAR PROBLEMS**.

Pancreas Function, to Balance

First try: 654

Then try: 1.2 + 250, 10, 15, 20, 26, 440, 444 + 1865, 464, 465, 537, 600 + 625 + 650, 624, 648, 660 + 690 + 727, 776, 787, 802 + 1550, 832, 880, 1500, 1552, 1600, 1800, 2008, 2170, 2127.5, 2489, 2720, 40K

Pancreatic Cancer

See under **CANCER**.

Pancreatic Fluke / *Eurytrema pancreaticum*

Flat worms that dig into the pancreas and destroy tissue.

1850, 2K, 2003, 2008, 2013, 2050, 2080, 6578, 1043.55, 20960.36

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 420350 (lowest), 421K (optimal), and 422300 (highest)

Hz set: 1041.94 (lowest), 1043.55 (optimal), and 1046.78 (highest)

Also from Clark: 20960.36

Pancreatic-Related Blood Sugar Disorders

See **BLOOD SUGAR PROBLEMS**.

What do the plus (+) signs between some of the numbers mean?

What about decimal points? Commas? Or semicolons?

How long should each frequency be run?

See the beginning of this chapter.

Parathyroid

The parathyroid gland usually consists of two pairs of small round tissue (sometimes there are more), attached to the thyroid gland on either side of the throat. Medical researchers believe that the parathyroid has one function only: to regulate the balance of minerals in the blood—namely calcium, phosphorus and magnesium—within a very narrow range so that the nervous and muscular systems work properly. Calcium does much more than build bone; it's used for many metabolic functions. Therefore, when blood calcium levels drop below a certain point, calcium-sensing receptors in the parathyroid gland are activated, a hormone is released that causes the breakdown of bone, and calcium is released back into the blood. The parathyroid balancing mechanism also helps to compensate for excesses or deficiencies of Vitamin D and essential fatty acids.

Parathyroid dysfunction can cause either an excess or a deficiency of calcium. If the parathyroid gland is overactive (more common than underactivity), too much parathyroid hormone is released. This produces too much calcium and too little phosphorus in the blood, causing the removal of calcium from the bones with symptoms that include bone weakness, muscle weakness, and heartbeat abnormalities. If the parathyroid is underactive, insufficient parathyroid hormone is released. This produces too little calcium and too much phosphorus in the blood, leading to a deficiency of usable calcium that causes muscle problems and convulsions.

General symptoms of a mild parathyroid imbalance include weakness, fatigue, aches, and depression. Symptoms of a severe condition also include abdominal pain, nausea, vomiting and constipation; loss of appetite; excessive thirst; excessive urination; bone pain; muscle aches; high blood pressure; and confusion, impaired memory, stupor, and delirium. Thinning of bones, which leads to increased risk of fracture, is common.

Allopathic medicine treats this condition by removing the gland. To function properly, the parathyroid needs sufficient Vitamin D—which can be obtained through diet or direct exposure to sunlight—and Vitamin F (see Chapter 3, page 434).

All Disturbances

4.6, 9.5, 9.6

Calcium Metabolism and Utilization, to Improve

Parathyroid disturbance can cause either an excess or a deficiency of calcium available to the tissues.

First try: 9.6, 10K

Then try: 326, 328, 4760.5, 673.1, 771

Pineal

The pineal is a tiny gland shaped a bit like a pine cone, located near the center of the skull between the two brain hemispheres. Medical textbooks refer to the pineal gland as a “third eye” because in the first several weeks of embryonic life, it appears in the middle of the forehead and quite literally looks like an eye before it recedes back into the brain later. The pineal gland produces the hormone melatonin (derived from the amino acid tryptophan), which is responsible for the circadian rhythms or biological time clock of the body. Melatonin, which can be produced only in darkness, plays a major role in sexual development and metabolism as well as restful sleep.

The pineal is large in children but starts to shrink during puberty, often calcifying in adults. Some people take oregano oil and neem extract to decalcify the gland. Anecdotal accounts ascribe that ability to skate liver oil too.

Make sure to filter fluoride out of your water, avoid fluoride in dental supplies, and detoxify from fluoride. This dangerous compound tends to collect in the pineal gland and suppresses the production of melatonin and serotonin. One source recommends the mineral boron, a “pinch” of boron powder taken in 2 glasses of water, three times a day. The maximum amount that the FDA recommends is 1/8 teaspoon for a 100-pound person, and 1/4 teaspoon for a 200-pound person. If the pineal truly is an interface with more subtle energies, then decalcifying it will bring in more light—and more information.

Pineal Gland Function, to Balance

20, 480, 537, 662

Pineal Gland Fever

20, 10K, 40K

Pituitary

The pituitary is a pea-sized, but very powerful gland sitting in a small bony cavity at the base of the brain. Hormones released by the hypothalamus in the brain stimulate one part of the pituitary to secrete hormones that regulate a wide variety of bodily functions: blood pressure, growth, metabolic functions, male and female sex organ function (including some aspects of pregnancy and childbirth), breast milk production, thyroid gland function, water balance in the body, and the stimulation of other endocrine glands. The anterior pituitary secretes many different substances: prolactin, follicle-stimulating hormone, luteinizing hormone, thyroid-stimulating hormone, adrenocorticotrophic hormone (commonly known as ACTH), and endorphins. Another secretion,

human growth hormone (HGH), plays an important role not only in growth, but also in aging and the smooth functioning of the rest of the body. Another part of the pituitary does not produce its own hormones, but stores and releases the hormone oxytocin and the antidiuretic hormone ADH (also known as vasopressin).

The pituitary was once called the “master gland” until it was discovered that the hypothalamus—involved in any stress-related response—governs the pituitary. Therefore, consider meditation or therapies that address the emotions.

Pituitary Gland Function, to Balance

4.0, 537, 635

Pituitary Gland Fever

20, 10K, 40K

Pituitary Gland, to Stimulate Human Growth Hormone (HGH) Production

645, 1342, 1725

Thymus

The thymus is a soft, pinkish-gray, two-lobed gland located in the upper front portion of the chest cavity. This gland is most active during puberty, after which it shrinks in size and activity in most individuals and is replaced with fat. In an adolescent, the thymus weighs about 11/4 ounces (35 grams). In someone seventy years of age, the thymus weighs about 1/5 of an ounce (6 grams).

The thymus gland contains lymph tissue and is actually part of the lymphatic system. It plays a major role in immune function by producing T cells (T is for “thymus”) that destroy pathogens, and hormones that help with immunity. The thymus is highly affected by the emotions. Medical authorities consider it normal that the gland atrophies as we age, but proper nutrition and love will help ensure that the gland (and immune function) remain vital. Light rhythmic thumping on the chest can stimulate the thymus to work more efficiently. For more information on the lymphatic system, see Chapter 3, **Exercise**.

Thymus, to Balance and Normalize

20, 537

Thymus Gland Fever

20, 10K, 40K

Thyroid

The thyroid is a butterfly-shaped gland in the throat with most of its mass on either side of the centrally located Adam’s apple. The gland produces T4 or thyroxine, which is considered a relatively inactive “storage” hormone but is converted to the potent and biologically active T3 (triiodothyronine), T2, and T1.

T4 is only about one-quarter as potent as T3. Together, they heat the body, speed oxygen consumption

and heart rate, assist with growth and development, and encourage resistance to infection. The thyroid is essential for the normal function of cells, muscles, brain and nervous system, although thyroxin is most known for encouraging the metabolism of carbohydrates, fats, proteins, electrolytes and water, and helping the body take in nourishment and eliminate waste speedily and efficiently. Most T4 is converted into the more active T3 by the liver, kidneys, and some other body cells. T2 stimulates metabolism. One animal study showed that T1 cools the body and slows the heart. Together, all four of these related hormones act synergistically in ways not yet fully understood.

There's another thyroid hormone, Reverse T3 (RT3), which—like “regular” T3—is produced from T4 (usually in the liver). As its name implies, RT3 is a mirror image of T3, and they both latch on to the same receptor sites in the body. However, RT3 is inactive. It's created specifically to eliminate any unneeded T4. Every day, about 40% of T4 is converted to T3 while 20% is converted to RT3 (though these amounts vary). The problem is, precisely because RT3 isn't active, it can displace valuable T3 and prevent the cells from getting the hormonal activity they need. Many factors can cause the body to produce too much RT3. One is stress, which can involve too much or (eventually) too little cortisol in the bloodstream—both of which, for different reasons, cause an overabundance of RT3. Another is toxicity from heavy metals: cadmium, lead, mercury. (When heavy metals are removed from the body, RT3 levels fall and T3 levels rise.) Yet another cause is low iron levels. Low-iron red blood cells cannot circulate T4, which accumulates so much that the body must produce even more RT3 to clear away the excess T4. See Janie A. Bowthorpe's book *Stop the Thyroid Madness* or her website, stopthethyroidmadness.com.

The thyroid influences, and is influenced by, other endocrine glands (parathyroid, adrenals, pituitary and sex glands), and the hypothalamus portion of the brain. According to conventional medicine, the production of thyroid hormone depends on a complex hormone feedback loop. The process starts in the hypothalamus, which releases TRH (thyrotropin-releasing hormone) to stimulate the pituitary gland in the brain's center. The pituitary monitors blood thyroid hormone levels. If there's not enough thyroid hormone in the blood, the pituitary secretes TSH (thyroid-stimulating hormone) to induce the thyroid gland to produce more hormone. After the pituitary detects sufficient thyroid hormone in the bloodstream, it decreases production of TSH so the thyroid produces less hormone. The problem with this allopathic scenario is that even with normal blood levels of thyroid hormone, one may still have symptoms of a malfunctioning thyroid (it's usually underactive). In addition, the two lobes of the thyroid gland can function independently. If one lobe is *hypoactive*, the other lobe can become *hyperactive* to compensate (or vice-versa). Abnormalities such as this help explain why thyroid

Nutrients Critical for Thyroid Hormones

- ◆ **Iodine.** Helps create thyroid hormones. (Used by every hormonal receptor site of the body, it strengthens teeth and hair, forms healthy skin, boosts immunity, regulates blood sugar levels, supports the fetus during pregnancy, flushes heavy metals and other toxins, combats radiation, and even makes us smarter. There's a high uptake of iodine in the reproductive organs (especially ovaries and cervix), breasts, blood, lymph, bones, gastric mucosa, adrenals, prostate, thymus, lungs, bladder, kidneys, and skin. Iodine is a potent germicide in sea food and seaweeds, especially dulse and kelp. Women require more iodine than men: estrogen, prevalent in women, inhibits iodine absorption.
- ◆ **Zinc, Vitamin E, Vitamin B6** help T4 convert to T3.
- ◆ **Selenium** helps with T4–T3 conversion and reduces thyroid antibody levels in autoimmune disorders.
- ◆ **Tyrosine** (an amino acid) helps produce thyroid hormones.
- ◆ **Vitamins D and A** help activate T3 at nucleus of cell.
- ◆ **Iron** prevents T3 from becoming rT3.
- ◆ **Vitamin C, Vitamin B2, and Magnesium** help pull iodine into the thyroid gland. **Vitamin C** also improves the absorption of iron (see above).
- ◆ **Myo-inositol** improves cellular sensitivity to TSH (thyroid-stimulating hormone).

Note: there are other, “secondary” nutrients that act in synergy with the above, provide support for the thyroid not specific to hormone production, and are often depleted due to thyroid dysfunction.

hormone substitution (medication) may not be helpful, while herbs that help balance the thyroid gland work far better.

About one-third of the Earth's population live in iodine-deficient areas as defined by the World Health Organization. This correlates to the rise in thyroid disorders. Dr. David Brownstein states that 94.7% of 500 people he tested were deficient. Iodine helps the body synthesize, store and secrete thyroid hormone. An antiseptic, it coats and neutralizes allergenic proteins, and helps protect the system against cancer and autoimmune diseases. In the stomach, it deactivates all biological and most chemical poisons. Several leading holistic doctors say that iodine is required daily in milligram (mg), not microgram (mcg), amounts. The iodine form is utilized best by most body tissues, although the thyroid needs potassium iodide. If you're not getting enough in your diet (sea food and seaweed are excellent sources), supplement with liquid and/or tablets.

Several substances severely disrupt thyroid function. Fluoride interferes with the body's ability to utilize iodine. Goitrogenous vegetables—the brassica family (cauliflower, Brussels sprouts, cabbage, broccoli, mustard greens) and rutabagas, radishes and turnips—interfere with thyroid hormone production when eaten raw in large amounts. (Boil the vegetables to destroy the thyroid-inhibiting compounds.) Estrogenic compounds (which also interfere with immune response) are in plastics, some drugs, and soy (see Chapter 3, **Food**). Animals raised for food that eat even organic soy may cause thyroid problems.

Goiter

Goiter, enlarged thyroid gland tissue, can grow to be the size of tennis balls or larger. Allopathic medicine teaches that goiter results from undesirably high levels of TSH (thyroid-stimulating hormone) produced by the pituitary, which prods the thyroid gland to produce excessive amounts of thyroid hormone—thus causing the gland to grow abnormally. However, some people with goiter show normal thyroid hormone and TSH tests. If there's not enough iodine in the diet the thyroid will swell, trying to filter more blood to obtain the iodine it needs. Thus, insufficient dietary iodine can cause the thyroid to grow unnaturally.

Experts outside the United States recognize that goiter is generally due to an iodine deficiency. Goiter is less prevalent in those living at or near a seacoast. For two centuries (until recently), goiter was treated successfully with Lugol's solution (potassium iodide) and desiccated thyroid. Iodine is in sea food and kelp (which also comes in supplement form). See a practitioner so you don't overdose on iodine.

Goiter may also be caused or exaggerated by infection. It is often the most common manifestation of a larger constellation of conditions, one of which is Graves' disease (called Basedow's disease in Europe).

To support thyroid function: 160, 40K

If related to Struma cystica (swelling involving cysts): 361, 531, 756, (from Dr. Garvey) 5311

If related to Struma parenchyma (swelling involving kidneys): 121

If related to Struma nodosa (enlarged thyroid gland): 122, 321, 517, 532, 651, 576 (all Garvey), 105, 714

If due to other causes: 20, 160, 660 + 690 + 727, 787, 880, 16K

Graves' Disease / Basedow's / Diffuse Toxic Goiter

Graves' disease—named after the Irish physician who described it in the *London Medical Journal* in 1835—is known as Basedow's disease in Europe and thyrotoxicosis worldwide. The term “diffuse

toxic goiter” describes the condition rather than the discoverer. “Diffuse” refers to the entire gland that's involved in this condition. “Toxic” describes a condition reminiscent of infection and fever. “Goiter” is an abnormally large thyroid gland.

The most common cause of hyperthyroidism in Canada, Graves' affects about one in every 100 people, and more females than males. In addition to the other problems of hyperthyroidism (see the next page), symptoms include muscle weakness, thyroid enlargement (goiter), and eye problems, such as sensitivity to light, diminished vision, and double vision. The inflamed eyeball tissue gives the eyes the familiar bulge characteristic of this disorder.

Graves' is an autoimmune-related form of hyperthyroidism (although not everyone who's hyperthyroid has Graves'). In an immune-healthy body, lymphocytes (lymph immune cells) and NK (natural killer) cells target and destroy pathogens. They also prevent the production of harmful thyroid-stimulating (and other abnormal) antibodies. But with immune-impaired Graves', the lymphocytes don't function properly. They produce abnormal thyroid-stimulating antibodies, which attack proteins on the surface of thyroid cells. In response, the thyroid cells produce too much hormone, which in turn over-stimulates the thyroid. (The swelling of skin, eyes, or other body parts is caused by antibodies attacking the body's own tissues.) Even if most of the thyroid gland is removed, it can still become overactive again because the abnormal thyroid-stimulating antibodies that caused the hyperactivity in the first place are still being produced by the lymphocytes. Often, symptoms of Graves' intensify and then disappear.

Allopathic doctors treat an over-stimulated thyroid in three ways: surgery (removal of most or all of the thyroid gland), drugs (which suppress thyroid hormone production or block the effects of excess hormone on the heart, blood vessels and nervous system), or destruction of the gland (with radioactive iodine). If goiter threatens to block the windpipe (trachea) or food passage (esophagus), people receive a thyroidectomy. About 80% who receive radioactive iodine become hypothyroid, and must take thyroxin drugs for the rest of their lives.

Sometimes people manage Graves' with Acetyl-L-Carnitine, an amino acid that helps correct the immune response. New evidence suggests that minute amounts of (non-radioactive) iodine may also help, because the thyroid gland tends to overwork (and then quits working altogether) when it does not receive sufficient nutritional support. In some cases iodine makes the condition worse, although this is usually a temporary setback. As this is an immune response problem (which happens to manifest in the

thyroid gland), see a qualified health practitioner!

Graves' is also being managed with the essential trace mineral lithium orotate—which is safe and vital to the proper functioning of the body, unlike the harmful drug lithium carbonate.

There are no known frequencies for Graves' at this time. See "Hashimoto's Disease / Autoimmune Thyroiditis" and other entries in this section; **AUTOIMMUNE DISORDERS**; and **CHEMICAL SENSITIVITY / POISONING**. Also see the myriad pathogens implicated in autoimmune thyroid conditions: **VIRUSES**, "Coxsackie B" and under **BACTERIA**, "*Mycoplasma*, many types," "*E. coli* / *Escherichia coli*," "*Helicobacter pylori* / Peptic (Stomach) Ulcer," and "*Yersinia* infections, other (unspecified)."

Hashimoto's Disease / Autoimmune Thyroiditis

Hashimoto's is a chronic autoimmune condition, caused by abnormal antibodies in the bloodstream that attack and destroy healthy thyroid gland tissue. As a result, the gland is unable to produce enough hormone. In most cases, symptoms are similar to those of hypothyroidism: fatigue, forgetfulness, dry brittle hair, hoarseness, painful stiff joints, muscle weakness, face swelling, sensitivity to cold, pale dry skin, weight gain, constipation, muscle cramps, depression, and (in women) menstrual disorders.

Sometimes Hashimoto's develops in response to a lack of iodine, whereby the thyroid swells (a condition known as goiter) in its effort to filter more blood to obtain the iodine it needs. If iodine is then ingested, the now larger thyroid gland increases thyroid hormone production. This may account for the occasional swings between thyroid underactivity and thyroid overactivity. However, mostly the thyroid gland gradually atrophies, either becoming underactive or ceasing to function altogether.

Allopathic treatment consists of synthetic thyroid hormone. A holistic approach provides nutritional support. It can include: PRPs (transfer factors), glutathione, fish oil, and Vitamin D. Sufficient copper helps the body process iodine. Recent research shows that many Hashimoto's sufferers are deficient in selenium. Just 200 mcg of selenium daily significantly reduces thyroid antibody levels. Also, myo-inositol supplementation improves cellular sensitivity to TSH (thyroid-stimulating hormone).

Avoid glutinous grains! In *Why Do I Still Have Thyroid Symptoms*, Datis Kharrazian cites research showing that the molecular structures of gluten and the thyroid gland are similar enough that gluten in the gut can trigger the body to attack the gland.

The frequencies below are experimental. Also see "Graves' Disease / Basedow's / Diffuse Toxic Goiter" and other entries in this section; **AUTOIMMUNE DISORDERS**; and **CHEMICAL**

SENSITIVITY / POISONING. Also see the many pathogens implicated in autoimmune thyroid conditions: **VIRUSES**, "Coxsackie B" and under **BACTERIA**, "*Mycoplasma*, many types," "*E. coli* / *Escherichia coli*," "*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer," and "*Yersinia* infections, other (unspecified)."

0.5, 3, 20, 727, 787, 880

Thyroid Function, to Balance

First try: 160, 40K

Then try: 763, 660 + 690 + 727

And then try: 20, 537, 1570, 10K, 16K

Thyroid Gland Fever

20, 160, 660 + 690 + 727, 1570, 10K, 16K, 40K

Thyroid, Overactive / Hyperthyroidism

Overactivity of the thyroid gland, which causes too much thyroid hormone to be produced. The thyroid controls many body functions, so increased levels can be serious. Symptoms can include weight loss, profuse perspiration and sleeplessness (due to increased metabolism); irregular heartbeat, high blood pressure, chest pain, and even heart failure (because the circulatory system is working faster); and diarrhea (due to increased bowel function). The overstimulated nervous system causes irritability, nervousness, jitteriness, emotional angst, and mental disorientation. Despite increased appetite, the person usually loses weight because the increased breakdown of body proteins occurs too rapidly to be replenished by food.

To inhibit an overactive thyroid, doctors once administered fluoride, a poison. Goitrogenous vegetables (broccoli, cauliflower, mustard greens, kale, Brussels sprouts), eaten raw or undercooked, suppress thyroid hormone output as well.

Hyperthyroidism can be caused by Graves' disease (a faulty autoimmune response), nodules or goiters on the thyroid, excessive thyroid medication given to people with an underactive thyroid, iodine toxicity (too much iodine or an intolerance to certain forms of iodine), or thyroiditis (inflammation of the thyroid). This is not something to self-treat! See a health care practitioner.

0.5, 3, 20, 160, 40K

Thyroid, Underactive / Hypothyroidism

"Hypothyroidism" may be regarded as a catch-all term that describes both underactivity of the gland itself, and the inability of the body to utilize thyroid hormone. In either case, the symptoms are the same. Malfunctioning metabolism means impaired temperature regulation. This manifests

in weight gain (and occasionally weight loss), along with intolerance to both heat and cold—particularly in extremities where there's impaired circulation. (The person subjectively feels chilly, and the hands and feet feel cold to another person's touch.) The body also has difficulty repairing damaged tissues. This is why so many hypothyroid people suffer from structural weaknesses: brittle nails, brittle or scant hair (including baldness), degenerating bones (osteoporosis), malformed bones (scoliosis), and thinning and loss of eyebrows, notably the outer third. Physical signs of hypothyroidism also include puffy face and lips, dry skin, fatigue and lethargy, and slowed movements and speech.

Because thyroid hormones are intricately related to virtually every bodily function, hypothyroidism can cause or exacerbate conditions that initially might not seem related to each other: autoimmune conditions (such as allergies, lupus and rheumatoid arthritis), blood sugar disorders, cancers, cardiovascular disturbances (including coronary artery disease and congestive heart failure), dental problems (including chronic gum infections and temporomandibular joint or TMJ dysfunction), gastrointestinal disorders, hoarseness, sleep apnea, immune response malfunction leading to increased infections (such as *Candida albicans*), mental and emotional problems (including confusion, depression and mood swings), neurological impairment (including Multiple Sclerosis, deafness, tinnitus and vertigo), headaches and migraines, pain in joints and muscles (including arthritis, carpal tunnel syndrome and fibromyalgia), reduced perspiration, reproductive disorders (such as birth defects, endometriosis and infertility), respiratory conditions (including asthma, pneumonia and chronic sinus infections), skin disorders, and urinary tract problems (including infections, and kidney failure due to scarred shrunken kidneys).

Hypothyroidism was first reported in London in 1875. According to doctors Broda Barnes, James Howenstine, David Derry, Jacques Hertoghe and others, at least one-half of the US population suffers from slight to severe hypothyroidism. Some practitioners distinguish between two different types. In Type 1, the thyroid does not produce sufficient amounts of hormone to maintain "normal" blood levels (which in turn maintain normal blood levels of thyroid-stimulating hormone or TSH, produced by the pituitary). In Type 2, the thyroid gland produces adequate hormone, but the cells are unable to utilize the hormone properly. Some experts call this thyroid hormone *resistance*.

The body fails to accept or utilize thyroid hormone for many reasons. The mitochondria—energy-burning units of the cell responsible for about

90% of our energy production—may be impaired. Mitochondrial defects are common in iodine-deficient people. The defects can also be caused by environmental toxins, including petroleum, pesticides, organic solvents, and mercury and other heavy metals. (More women than men suffer from hypothyroidism because, due to estrogen, they are more susceptible to autoimmune disorders—and many thyroid conditions are autoimmune-based.) Faulty thyroid receptors on the cell membranes can also cause hypothyroidism by making it impossible for enough hormone to enter a cell's nucleus, where genes are activated and protein synthesis occurs. Finally, abnormally high levels of mucin cause disease conditions in over 55% of hypothyroid subjects. Mucin is a sugar-protein compound that readily absorbs water and is normally present in different types of connective tissue everywhere in the body: in the lining of blood vessels, in the nerve sheaths, in the fascia enveloping the muscles, in mucous membrane linings of the respiratory tract (such as the sinuses), and in the gastrointestinal and urinary tracts—not to mention every single organ and gland. When present in normal amounts, mucin isn't a problem. In excess, it damages the connective tissue wherever it accumulates. This helps explain the diversity of hypothyroidism-related conditions, which include Lupus and congestive heart failure.

Inadequate thyroid hormone at the cellular level negatively impacts other glands. To compensate for the weakness and low metabolism caused by insufficient thyroid hormone, the adrenals especially (along with the sympathetic nervous system) overwork. This may cause a temporary rapid heartbeat, hyperactivity, or restlessness—until exhaustion occurs from the unnatural attempts to compensate for low thyroid hormone levels. Often, the majority of sufferers simply feel fatigued and weak most of the time. This is why it's important to support other organs and glands, especially the adrenals, when treating hypothyroidism.

Hypothyroidism can be worsened by constant low body temperature and a diet high in carbohydrates, gluten, dairy, and soy. Radiation from nuclear bomb "testing" or X-rays can damage even a healthy gland, because radiation creates radioactive iodine that displaces, on the cell receptor sites, non-radioactive iodine that the thyroid urgently needs.

Lab tests showing inadequate bloodstream levels of thyroid hormone make it easy to diagnose Type 1 hypothyroidism. However, lab tests can't detect Type 2 hypothyroidism because the bloodstream might register adequate hormone levels, despite the body tissues' inability to utilize it. Therefore, the best hypothyroidism test (developed by Dr. Barnes) is to take the armpit temperature before rising

every day for at least one week. If the temperature averages lower than 97.8°F (about 36.6°C), the person is hypothyroid. One can be hypothyroid with a near-normal basal temperature; but this test is still the most accurate diagnostic tool. One's symptoms and clinical picture provide the definitive diagnosis, not an arbitrary number in a laboratory test.

In Europe, diagnoses of hypothyroidism can be rare. Doctors first investigate adrenal exhaustion, chemical toxicity, and pathogens. Often, after treatment hypothyroidism is no longer an issue. In the US, medication is freely prescribed. Prolonged administration of synthetic thyroxin (T4) is the least valuable remedy, and may shut down the gland entirely. The most effective medication is whole desiccated thyroid (from pigs) made from the entire gland and its contents: all forms of thyroid hormone, RNA, DNA, and co-factors (which all work synergistically with each other). An alternative is compounded T3 and T4, in the same ratio as that of a functioning gland. However, synthetic T3 is known to cause "side" effects such as severe hip pain.

A large portion of the T4-to-T3 conversion takes place in the liver, so a liver detox protocol is wise. To eliminate debris, sauna therapy also works well. Sweating reduces the waste removal burden on the kidneys, liver, and eliminative organs. See Chapter 3, **Detoxification**, and my book, *The Holistic Handbook of Sauna Therapy*.

Avoid chemicals that lower thyroid function. These include fluoride (in municipal drinking water, most toothpaste, some bottled teas, and even the older non-stick cookware); chlorine (in municipal drinking water, swimming pools and spas, chlorine bleach, and commercially processed chicken); and bromine/bromides (in commercial baked goods, soda pop, some plastics, fire retardants used in children's nightwear and some furniture, and pesticides containing methyl bromide).

Read *Solved: The Riddle of Illness*, and see a holistic medical doctor. Often, other glands in a delicate balance with the thyroid are involved, such as the adrenals, sex glands, and pituitary.

7.7, 12, 20, 35, 160, 740, 802 + 1550, 16K

Thyroiditis

Inflammation of the thyroid gland, generally occurring after a viral infection or pregnancy. Many viruses and bacteria may be involved, so use frequencies for any infectious illnesses you may have had within the last six months to two years (and maybe farther back). Also see these pathogens that may cause thyroiditis: **VIRUSES**, "Rubulavirus / Mumps" and **BACTERIA**, "Mycoplasma, many types."

End of Glands section.

GLANDULAR FEVER

See "Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)" under **VIRUSES**.

GLAUCOMA

See under **EYES**.

GLIOMA

See "Brain Tumor / Astrocytoma" under **CANCER**.

GLIOBLASTOMA

See "Brain Tumor / Astrocytoma" under **CANCER**.

GLIOCLADIUM

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

GOITER

See under **GLANDS, Thyroid**.

GONORRHEA

See under **MEN, Urinary** or **WOMEN, Vagina, Labia and Clitoris**.

GORDONA SPUTI

See under **BACTERIA**.

GOUT

A metabolic disorder of excess uric acid—either because the body makes too much, or not enough leaves in the urine. Gout is a form of arthritis. The excess uric acid is in the bloodstream and also lodges inside the cells, disrupting the function of the tiny fuel-burning mitochondria. The chief symptom is inflammation of the joints, and often includes swelling of the large joint of the big toe.

For symptomatic relief, conventional medicine advises a low purine diet. Meats and seafood highest in purine include anchovies, herring, sardines, scallops, duck, goose, and organ meats—liver, brains, kidney, and sweetbreads (the thymus gland). Dried peas and legumes are also rich in purine. Therefore, people are advised to eliminate these foods entirely or to limit intake to 3 or 4 ounces per meal. Abstain from alcohol. Also, avoiding sugars—in particular fructose—is critical to getting well, because fructose causes the body to produce high levels of uric acid. See Chapter 3, **Food**, "Natural, Refined, and Artificial Sweeteners" for more information. Cherry juice has been reported to reduce uric acid levels, but it still might contain too much sugar.

Drink plenty of water to dilute the uric acid in the bodily fluids and flush it out of the system. Structured water is best; see Chapter 3, **Water**.

9.39, 9.4, 20, 3K, (and for 10 minutes each) 465, 660 + 690 + 727, 784, 787, 880, 1560

GRAVEL IN URINE

See under **URINARY TRACT, Bladder and Urethra**.

GRAVES' DISEASE

See under **GLANDS**, *Thyroid*.

GRIPPE

See "Influenza" under **VIRUSES**.

GULF WAR SYNDROME / GULF WAR ILLNESS

A communicable, contagious, and potentially lethal constellation of chronic debilitating symptoms reported by troops from the United States, Britain, Denmark, Canada, Saudi Arabia, Egypt, Australia, and other countries who served in the 1991 Persian Gulf Operation Desert Storm. Cell biologist Garth Nicolson's 1996 estimate of 100,000 to 200,000 American veterans who became ill (with more than 15,000 dead) does not include infected family members and friends who became disabled or died. Half of the spouses, all of the children, and even pets of the veterans became sick. Sixty-five percent of the children subsequently born to veterans either died or had crippling birth deformities (one or more limbs missing, only one eye, etc.). Symptoms include disabling fatigue; muscle and joint pain; night sweats; fever; abdominal bloating, diarrhea and vomiting; memory and concentration impairment; Parkinson-like symptoms and paralysis; headache; skin rash; respiratory conditions similar to bronchitis and tuberculosis; vision impairment; cancerous tumors; and mental issues including irritability, violent behavior and depression. The symptoms can take six months or even years to develop, and most doctors do not have the training or experience to diagnose this disease.

Major stressors such as chemical exposure, injury, and vaccines (which themselves contain pathogens) can stimulate the onset of illness. Dr. Joseph Mercola believes that the combination of aspartame-ridden soft drinks, vaccines, nerve gas "antidotes," and insecticides—along with biowarfare microorganisms—created this condition. However, the most direct and serious cause may be genetic engineering. In the blood of Gulf War veterans, Dr. Nicolson discovered *Mycoplasma fermentans incognitos*, an unusually venomous microbe that's difficult to detect. It contains a highly unusual retroviral DNA sequence: just a portion (40%) of the HIV-1 genetic code, and just the envelope gene. (The HIV-1 virus is unable to replicate with only one envelope gene.) This minute amount of genetic material is powerful enough to give someone symptoms of AIDS but test negative for HIV. Nicolson and his molecular biologist wife, Nancy, present compelling evidence that *Mycoplasma fermentans incognitos* is only one of about 15 dangerous *Mycoplasma* that may have been employed during Desert Storm. These manufactured pathogens have existed for at least 50 years. The countries capable of creating them include the United States, Russia, Iraq, China, Israel, and Libya.

Several strains have been identified so far. See "*Mycoplasma*, many types" under **BACTERIA**. Also see "Amyotrophic Lateral Sclerosis (ALS)" and other entries under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**; "Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue

Syndrome (CFS)" under **VIRUSES**; the many entries under **CHEMICAL SENSITIVITY / POISONING**; **FIBROMYALGIA**; and anything else that fits your symptom picture.

GUM PROBLEMS

See under **DENTAL**, *Mouth and Gums*.

—H—**H1N1**

See "Swine Flu / H1N1" under **VIRUSES**.

HAIR LOSS / ALOPECIA

Can be caused by a metabolic disorder (relating to spleen malfunction), hormonal imbalance, nutrient deficiency, stress, or even an immune malfunction (alopecia areata) in which the body's immune cells mistakenly attack hair follicles. The herb saw palmetto (also effective for male baldness) is sometimes used. A great treatment for everyone is externally applied castor oil (see Chapter 3, **Detoxification**).

If a fungal infection is involved, also see the *Malassezia* and other entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**. From Dr. Richard Loyd: 91366.5, 127228, 155646, 65636. Then try: 646, 10K, 3, 28, 95, 330, 2170, 2720, 4200, 5K, 30K, 40K.

Also try: 20, 146, 465, 787, 800, 880, 1552.

HAIRY CELL LEUKEMIA

See "Leukemia, Hairy Cell" under **CANCER**.

HALITOSIS / BAD BREATH

See under **DENTAL**, *Mouth and Gums*.

HALLUCINATIONS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

HAND, FOOT AND MOUTH DISEASE

See "Coxsackievirus A16 / Hand, Foot and Mouth Disease" under **VIRUSES**.

HANGOVER

See under **LIVER AND GALLBLADDER**, *Liver*.

HANSEN'S DISEASE

See "*Mycobacterium leprae* / Leprosy / Hansen's disease" under **BACTERIA**.

HAY FEVER

See under **RESPIRATORY TRACT**, *Nose and Sinuses*.

HEAD INJURIES

See under **INJURIES**.

HEADACHE

Can occur due to sitting for long periods (exacerbated by texting and gaming on portable devices). The neck muscles become stressed and tight. Circulation decreases, limiting the amount of oxygen to the brain. There may be a magnesium deficiency. Massage the scalp, and get up and stretch.

1.2 + 250, 40, 144, 160, 304, 520

Headache, Parasite Involvement

Above and 1.1 + 73, 20, 72, 95, 125, 660 + 690 + 727, 3K

Headache, Toxicity Involvement

1.2 + 250, 4.9, 20, 146, 160, 522, 660 + 690 + 72, 787, 880, 3K

Headache, Unknown Cause

1.2 + 250, 20.5, 4, 5.8, 6.3 + 148, 6.8, 7.83, 10, 14, 72, 95, 125, 144, 160, 304, 333 + 523 + 768 + 786, 428, 444 + 1865, 555, 600 + 625 + 650, 660 + 690 + 727, 1K, 3K, 40K

Headache, Urogenitally Caused

1.2 + 250, 9.39, 9.4, 160, 333 + 523 + 768 + 786, 555, 3K, 40K

Headache, Vertebral Misalignment Involvement

Not meant to replace a chiropractic adjustment.

1.2 + 250, 9.6, 160, 3K

Migraine

Pain at side of the head, often along the 5th cranial nerve. Can be accompanied by disordered vision, nausea, chill, and fatigue. May be caused by allergies, drugs, chemicals, unsuitable food, a toxified liver, menstrual problems, hormonal conditions, worry, or even strenuous exercise.

Migraines can also be caused by low blood sugar. The brain utilizes 25% of the body's glucose, so a blood sugar drop of as little as 5% can cause great fatigue and adversely affect thinking, mood, and motor coordination (among other brain functions). When blood glucose levels decrease, the body may compensate by increasing the blood volume to bring more glucose to the brain. This expands the blood vessels. Over time, the bulging blood vessels repeatedly pressing on nerves can cause pain. Some sources believe that migraines involve both constriction and dilation of blood vessels leading to the brain, which induces the release of inflammatory substances.

Avoid caffeine and other drugs, fake foods, overly fatty foods, and grains. Rest in a dark room. Alkaline, mineralized water may be helpful. Also see **BLOOD SUGAR PROBLEMS; PARASITES, PROTOZOA AND WORMS**, "General (unspecified)" and "*Strongyloides stercoralis* / Threadworm"; and applicable frequencies under **LIVER AND GALLBLADDER**. Finally, see "Teeth Grinding / TMJ

Problems / Jaw Pain" under **DENTAL, Teeth**, because migraine and headache problems can begin in the mouth.
10, 40, 160

End of Headache section.

HEALING AND REGENERATION

See various entries under **REGENERATION AND HEALING**.

HEARING CONDITIONS

See various entries under **EARS**.

WARNING! If You Have a Heart Condition or Are Wearing a Pacemaker

- ◆ **Electrode units are not safe.** Running electricity through the upper part of the body can cause harm or lead to death!
- ◆ **Radiant plasma units that don't use radio frequency (RF) are safe for people with heart conditions and for those who are wearing pacemakers.**
- ◆ **Radiant plasma units that use radio frequency (RF) are safe for people wearing pacemakers if the pacemakers are shielded.** Your pacemaker is very likely shielded, but ask your doctor anyway.
- ◆ **Radiant plasma units that use RF are safe for those wearing unshielded pacemakers if they are out of range of the RF.** Ask your rife machine manufacturer how far away you need to sit from the unit to be safely out of range of the RF. So far, RF plasma unit manufacturers have not reported any problems with pacemaker wearers, but it's better to be cautious than to automatically assume that your pacemaker is shielded or that the RF won't cause problems.

HEART, BLOOD AND CIRCULATION

The cardiovascular system consists of the heart, valves, and blood vessels. The heart is a pear-shaped organ in the chest between the lungs, leaning toward the left. Arteries carry blood away from the heart and pick up oxygen from the lungs. They become arterioles, and then tiny capillaries that carry the oxygen-rich, red blood to every cell in the body. At the point that the arterial capillaries pick up carbon dioxide from the cells, they are called venous capillaries, which then become the larger venules and then veins, which carry the now bluish-tinted blood back to the heart. The veins deposit the carbon dioxide into the lungs just before the venous blood returns to the heart to be recirculated through the body.

This very complex pump, consisting of four chambers, contains valves that regulate the blood as it flows in, through, and out. Although the heart is classified as an organ, it has also been considered an involuntary (although striated) muscle. But recently, neurocardiologists discovered that almost 65% of the heart cells are nerve cells that are identical to those in the brain, and which operate with the same

Nutritional Support for the Heart

- ◆ **Hawthorne Berry.** Well known among herbalists as vital for heart and circulatory system functioning. Its most powerful form is as a Gemmotherapy tincture (developed in the 1950s), made from plant embryonic tissues: buds, young shoots, and rootlets. ("Gemmo" is from the Latin *gemmae*, which means "buds.") These plant parts contain the most powerful energy, including growth hormones. The inexpensive, rapid-acting "plant stem cell therapy" tinctures detoxify, nourish, energize, and rejuvenate.
- ◆ **Omega 3 Fats.** Scarcity of Omega 3 fats in the diet (the best sources are from fish) cause the kidneys to secrete rennin. This causes the adrenals to secrete angiotensin, which in turn causes the blood vessels to constrict and raise blood pressure. Holistic practitioners see blood pressure normalize once the kidneys are supplied with enough Omega 3s.
- ◆ **Vitamin C.** Insufficient amounts of this vitamin can contribute to heart attacks.
- ◆ **Bioflavonoids, including Quercetin.** Bioflavonoid deficiencies lead to weakened blood vessel walls. (Note: the narrowing of arterial walls may be due to protein buildup. Proteins form on the walls to patch leaky blood vessels that are weak and threaten to hemorrhage.)
- ◆ **Magnesium.** Used in over 300 enzymatic processes in the body, it reduces blood pressure. Heart attack sufferers who are taken to a hospital are routinely given intravenous magnesium chloride. This mineral, scarce in the diets of half the US population, helps keep heart tissue healthy among other functions.
- ◆ **Coenzyme Q10.** A critical nutrient that's generally low or missing entirely in people with heart conditions. Levels are lowered even more by statin drugs. (People with congestive heart failure who are taking Coenzyme Q10 should not stop taking it suddenly, because abrupt withdrawal may temporarily aggravate the symptoms of congestive heart failure.)
- ◆ **B Vitamins.** The risk of heart attack can also be diminished by taking nutritional yeast (rich in B vitamins) and additional B12. B vitamins prevent the buildup of homocysteine in the blood by enhancing its conversion to (desirable) glutathione or methionine in the body. It's the buildup of homocysteine that triggers heart attacks, not cholesterol levels.
- ◆ **L-Carnitine.** An amino acid that breaks down fats and drives them into the tissues. Improves recovery time and exercise tolerance after heart attacks.

neurotransmitters. And molecular biologists have found that the heart is also an endocrine gland that releases the hormone ANF (atriol neuriatic factor) in response to our experience of the world. ANF affects the limbic (emotional) portion of the brain, which also deals with memory and learning and controls other hormone glands. In a feedback loop between the heart, the brain, and the rest of the body, our ideas, emotions, and impulses toward action are mediated by our heartfelt response to the environment. This is why, quite literally, our heart has an innate intelligence—and it may well be a more important "brain" than the stuff inside our skulls! In a true reflection of our emotional states, the heart literally expands with love or joy, and contracts in fear, sadness or anger. Thus, fulfillment in life is as crucial as diet to the heart's health.

Few people, and even practitioners, are aware of how important the microcirculation is. Varicose veins, clots, thrombosis, blood pressure issues, and more can be managed or reversed entirely with the BEMER®. It emits a pulsed magnetic field that opens up the tiny blood vessels and allows blood to flow as it should. See Appendix C.

Men are more at risk for heart attacks than women, and heart attack symptoms for each sex tend to be different. Men often experience stabbing chest pains, pain that radiates down the left arm, and cold sweat. Women may experience symptoms that could be from other causes: nausea and vomiting, heaviness in the abdomen, shortness of breath, chest pressure, and spasms up the spine to the neck, throat, and jaw. More women than men suffer strokes.

Cholesterol-rich foods are unjustly blamed for heart problems. Most (if not all) of the unwanted cholesterol that clogs the blood vessels *is produced by the body itself in response to chemical and microbial toxins*. Blood vessel walls become lined with cholesterol to protect them from becoming scratched or ulcerated. The body actually needs cholesterol, found in various foods including eggs and liver.

Insufficient thyroid hormone is a significant contributing factor to coronary disease. In 1950, Dr. Broda Barnes began a long-term, two-year investigation to see if proper treatment of hypothyroidism would prevent heart attacks. His subjects were matched against those in another, famous survey called the Framingham Study. According to the Framingham statistics, 72 people in Barnes's group should have suffered heart attacks, but only four people were stricken. The single difference between Barnes's subjects and those in the Framingham Study was Barnes's use of thyroid hormones. (They were given whole dessicated thyroid gland, not the synthetic drug.) Over 90% of Framingham-Study-predicted heart attacks were prevented. Dr. Barnes warned that the incidence of heart attacks would continue unless hypothyroidism was recognized and properly treated. Therefore, see "Thyroid, Underactive / Hypothyroidism" under **GLANDS, Thyroid**.

Under a microscope, Guenther Enderlein found the fungus *Mucor racemosus* fresen present in the blood of virtually every case of coronary and circulatory conditions. The frequencies

are listed in this section. Also see the various “*Chlamydia*” frequencies under **BACTERIA**, as researchers are finding that this microorganism is also causing plaque buildup.

Anemia, related to low oxygen

Stop! See warning (box) at the beginning of this section.

Anemia is characterized by abnormally low levels of red blood cells or hemoglobin, the substance in red blood cells that attract and carry oxygen to the rest of the body. Without sufficient oxygen transport, all organs, glands, and bodily systems are affected. Just a few symptoms are fatigue, weakness, brittle nails, cardiovascular difficulties, and shortness of breath.

The three main causes of anemia are loss of blood (through pregnancy, heavy menstrual periods, ulcers or injuries); insufficient red blood cell production (due to insufficient iron, folate, and/or Vitamin B12 in the diet); and the rapid destruction of red blood cells (sometimes occurring in cases of cancer). Anemia may also occur during infection, when the bone marrow temporarily slows its production of red blood cells.

The first priority is to make sure that the diet contains all necessary nutrients. Some form of oxygen therapy may be helpful. There are no frequencies for anemia *per se*. But some pathogens directly affect the red blood cells and anemia may result; so see “*Funneliformis mosseae*” under **CANDIDA, FUNGI, MOLDS AND YEASTS**. Also see applicable entries in this section.

Anemia, Sickle Cell

Stop! See warning (box) at the beginning of this section.

Healthy red blood cells are round, a shape that allows them to move easily through the bloodstream to carry oxygen to all the tissues. In people with sickle cell anemia, the red blood cells are abnormal. Shaped like stiff, pointy sickles (or crescent moons), they get stuck when traveling through small blood vessels, which causes severe pain. Organ damage can also occur because tissues aren't getting enough oxygen. These rigid and sticky blood cells die prematurely—after 10 to 20 days, compared to about 120 days for a normal red blood cell—which results in a chronic shortage of red blood cells leading to a condition called anemia (above).

Symptoms include breathing difficulties, chest pain, coughing, fatigue, fever, headache, dizziness, increased susceptibility to infection, jaundice, and rapid pulse. Often the spleen will become enlarged, causing abdominal pain because it has trapped the abnormal red blood cells. If enough of the crescent cells block blood vessels to the head, the person may have a stroke.

In the US, mostly African-Americans are affected. Other forms of sickle cell sometimes occur in those of Mediterranean, East Indian, or Middle Eastern descent.

According to conventional medicine, this is a genetic disease with no cure. The most common treatments

Medical resources routinely used for intravenous hydration . . . may be limited in remote regions of the world. When faced with these shortages, physicians have had to improvise . . . We report the successful use of coconut water as a short-term intravenous hydration fluid [in the] Solomon Islands.

—Darilyn Campbell-Falck et al.,
“The intravenous use of coconut water,”
The American Journal of Emergency Medicine, January 2000

include pharmaceutical pain relievers, medications to prevent the problems associated with anemia, daily doses of antibiotics to prevent infection, regular blood transfusions, and sometimes bone marrow transplants.

Holistic medicine holds more promise for a genuine cure. Because a crescent red blood cell is an irritant, it very likely provokes an inflammatory response, which suggests an autoimmune component. This offers clues on how to treat the condition. Zinc, a mineral that's deficient in a majority of children with sickle cell, reduces the severe abdominal pain and vomiting characteristic of sickle cell anemia. Methylfolate (see Chapter 3, **Nutritional Supplements**) helps the system produce new red blood cells. Vitamin E, along with essential fatty acids (EFAs), shows great promise in assisting the bone marrow's production of red blood cells. This not only alleviates symptoms, but it also normalizes cells. Hydration is important; no coffee, alcohol, tea, or soda. Drinking filtered mineralized water can help manage the pain.

The Crescent Alliance Self Help for Sickle Cell is an organization that has researched the use of certain herbs that not only lessen symptoms, but also normalize cells by causing them to revert to their proper shape. These plant extracts include *Nigritian kief* (a certain species of hemp), *Fagara zanthoxyloides* root (also used for malaria), a boiled extract of edible *Cajanus* (cajan) beans, *Cannabis*, and prickly ash bark. Some sufferers are also obtaining good results with ozone (see Chapter 3). If the cells are oxygenated properly, they have less chance to mutate.

Avoid emotional stress, cold temperatures, and strenuous exercise. Keep the body well oxygenated by avoiding high altitudes, cigarette smoke and dirty air. Also see **AUTOIMMUNE DISORDERS**.

.02, 0.12, 5.16, 62.5, 110.25, 332.41, 517.5, 684.81, 712.23, 992, 40K

Aneurysm

Stop! See warning (box) at the beginning of this section.

Dilation of an artery due to pressure of blood on weakened tissues, forming a sac of blood. The artery can rupture if one isn't careful.

20, 72, 95, 125, 444 + 1865, 465, 660 + 690 + 727, 760, 787, 880, 40K

Angina Pectoris

Stop! See warning (box) at the beginning of this section.
Pain in an area of the heart, usually due to injury of coronary artery.

3 + 230, 7.83, 20, 72, 95, 125, 146, 160, 333 + 523 + 768 + 786, 444 + 1865, 465, 522, 555, 660 + 690 + 727, 776, 787, 832, 880, 1500, 1600, 1800, 2170, 2720

Apoplexy

See “Stroke Paralysis / Apoplexy” in this section.

Arterial Spasm causing limping and leg cramps

See “Intermittent Claudication” in this section.

Arteriosclerosis

Stop! See warning (box) at the beginning of this section.
Hardening of the arteries. For this condition, regeneration takes time. Also see viruses, “Herpes Virus Type 5 (Human Herpes Type 5) / Cytomegalovirus (CMV) / Salivary Gland Virus.”

20, 660 + 690 + 727, 776, 787, 802 + 1550, 810, 880, 1500, 1600, 1800, 2170, 2720, 10K, 40K

Artery, Dilation of

See “Aneurysm” in this section.

Banti's Disease

Stop! See warning (box) at the beginning of this section.
Blood vessels between the liver and intestines become blocked, leading to anemia, congestion of the veins, enlarged spleen, stomach and intestinal bleeding, and ultimately cirrhosis of the liver.

1778

Blood Capillaries, to Stimulate Healing of

Stop! See warning (box) at the beginning of this section.
15.2

Blood Cell Production, Red, to Normalize

Stop! See warning (box) at the beginning of this section.
1524

Blood Cell Production, White, to Normalize

Stop! See warning (box) at the beginning of this section.
1434

Blood Circulation, to Stimulate and Normalize

Stop! See warning (box) at the beginning of this section.
16, 17, 9.39, 9.4, 40, 337

Blood, to Clean

Stop! See warning (box) at the beginning of this section.
10K, 40K, 100K

Blood Clot

Stop! See warning (box) at the beginning of this section.
Clots are coagulated, partly solidified blood containing fibrous proteins—what some clinicians call the rouleau effect, French for “stacked coins,” because that’s what the red blood cells look like. Clumped together in this way, red blood cells lack sufficient oxygen and have an abnormally low electrical charge.

Never apply electrodes to an area that might have clots. The current from electrodes, which mechanically squeezes the tissues, can dislodge the clot and send it to your brain, possibly causing a stroke or even killing you. Radiant plasma units are safe because they deliver frequencies via an electromagnetic field without any mechanical pressure.

Three enzymes are often used to prevent and disperse blood clots, thin the blood, and provide anti-inflammatory effects: lumbrokinase (from earthworms), nattokinase (from fermented soy), and serrapeptase (from silkworms). Take them on an empty stomach (at least 2 hours after eating or 1–2 hours before), to ensure that they reach the bloodstream instead of being used up in the process of digestion.

6, 28, 59, 685

Blood Hemoglobin Production, to Normalize

Stop! See warning (box) at the beginning of this section.
2452

Blood Pressure, to Balance and Normalize

Stop! See warning (box) at the beginning of this section.
If blood vessels are too narrow for the amount of blood that must flow through them (as when deposits of plaque are encrusted on the vessel walls), the heart must pump harder.

15

Blood Pressure, High / Hypertension

Stop! See warning (box) at the beginning of this section.
From Bruce Stenulson, in this order, at least 4 minutes each. These frequencies can also be used for diabetes:
324, 528, 15

Also try: 6, 9.19, 9.2, 20, 65, 72, 95, 304, 660 + 690 + 727, 787, 880, 10K, 40K

Blood Pressure, Low / Hypotension

Stop! See warning (box) at the beginning of this section.
Low functioning adrenals commonly contribute to low blood pressure, so see entries under **GLANDS, Adrenals**.
20, 471.5, 660 + 690 + 727, 787, 880

Capillaries, to Stimulate Healing of

Stop! See warning (box) at the beginning of this section.
15.2

Cardiac Edema

See “Congestive Heart Failure / Cardiac Edema” in this section.

Chilblains

Stop! See warning (box) at the beginning of this section.
Blood vessel disorder caused by prolonged exposure to cold, featuring inflammation, swelling, and skin lesions on face, lower legs, feet, and hands.

20, 232, 622, 822, 2112, 4211, 5K, 10K, 40K

Circulation of Blood, to Stimulate and Normalize

Stop! See warning (box) at the beginning of this section.
16, 17, 9.39, 9.4, 40, 337

Clot

See “Blood Clot” in this section.

Congestive Heart Failure / Cardiac Edema

Stop! See warning (box) at the beginning of this section.
Water retention in heart area.
9.19, 9.2

Endocarditis

Stop! See warning (box) at the beginning of this section.
A life-threatening inflammation of the heart’s chambers and valves (endocardium), or membrane lining the inner surface and cavities of the heart. Usually caused by an infection of *Staphylococcus aureus*, *Staphylococcus capitis* and/or *Staphylococcus lugdunensis*. Also see “*Streptococcus*” entries and “*Propionibacterium acnes*” under **BACTERIA**, as these microbes have also been implicated in endocarditis.

Mostly from Dr. Richard Loyd. There are many numbers because the *Staph* strains mutate quite a bit:

366, 425, 433, 445, 456, 457, 465, 466, 467, 468, 478, 554, 555, 644, 647, 657, 668, 683, 687, 688, 737, 738, 745, 757, 764, 767, 777, 778, 784, 785, 786, 786.5, 787, 788, 824.4, 866, 878, 935, 728, 936.97, 943, 944.4, 946, 999, 1010, 1050, 1060, 1214, 1216, 1232, 2352.44, 2371.11, 5906.25, 5953.12, 7270, 8478, 8697

Also try: 333 + 523 + 768 + 786, 377, 471, 626, 628, 634, 714, 724, 744, 2162

Erythema

Stop! See warning (box) at the beginning of this section.
Skin redness caused by capillary congestion, indicating an overworked heart.

9.4

Fluke, Blood

Stop! See warning (box) at the beginning of this section.
419, 329, 635, 847, 867, 7391, 5516, 9889

Heart Function, to Normalize

Stop! See warning (box) at the beginning of this section.
696

Hemophilia

Stop! See warning (box) at the beginning of this section.
A hereditary bleeding disorder in which the blood does not readily clot. Some of the numbers are from Dr. Garvey.
542, 603, 652, 751, 778, 845, 942

Hemorrhage

Stop! See warning (box) at the beginning of this section.
Abnormal discharge of blood from a vessel, internal or external. Go to emergency room.
802 + 1550

Infections, Post-operative (for valve and shunt implants)

Stop! See warning (box) at the beginning of this section.
See **BACTERIA**, “*Propionibacterium acnes*”; this microbe is implicated in post-surgical infections of heart valves and nervous system shunts.

Intermittent Claudication

Stop! See warning (box) at the beginning of this section.
Arterial spasm causing limping and leg cramps.
45, 48, 10K, 40K

Leukemia, all kinds

See “Leukemia” entries under **CANCER**.

Leukosis

Stop! See warning (box) at the beginning of this section.
Increase of leukocytes (white blood cells), or of the tissue that forms them. It may be a precursor to leukemia, so see “Leukemia” entries under **CANCER**. Parasites may be involved, so see applicable entries under **PARASITES, PROTOZOA AND WORMS**. Use all the frequencies below.
612, 633, 644, 653, 3722

Limping caused by Intermittent Claudication

Stop! See warning (box) at the beginning of this section.
An arterial spasm that causes leg cramps or lameness.
45, 48, 10K, 40K

Mucor racemosus fresen

Stop! See warning (box) at the beginning of this section.
A fungus that grows on decaying vegetation and bread and can cause ear infections. According to Dr. Guenther Enderlein, it’s implicated in most (if not all) coronary conditions.

First try: 310, 474, 875

Also try: 473, 686, 713, 729, 731, 751, 760, 778, 871, 873, 876, 878, 887, 1200, 7768, 7976, 8788

Use the BEMER® to increase all circulation.

See Appendix C for details.

Pericarditis

Stop! See warning (box) at the beginning of this section.
 Infectious inflammation of the pericardium, the membrane sac enclosing the heart and the major blood vessels.

1.1 + 73, 3.9, 20, 72, 80, 95, 125, 160, 444 + 1865, 465, 600 + 625 + 650, 660 + 690 + 727, 760, 787, 802 + 1550, 880, 1600, 2170, 2720, 40K

Phlebitis

Stop! See warning (box) at the beginning of this section.
 Vein inflammation.

776, 1500

Plasmacytoma

See "Multiple Myeloma" under **CANCER**.

Raynaud's Disease

Stop! See warning (box) at the beginning of this section.
 Nervous system disorder leading to circulation problems in the limbs. It can lead to congestion and swelling, and if severe enough, gangrene.

20, 660 + 690 + 727

Red Blood Cell Production, to Increase

Stop! See warning (box) at the beginning of this section.
 1524

Rheumatic Fever

Stop! See warning (box) at the beginning of this section.
 Fever, sweating, painful and swollen joints. Inflammation frequently spreads to heart.

333 + 523 + 768 + 786, 376, 952

Stroke

Stop! See warning (box) at the beginning of this section.
 Hemorrhage, or abnormal discharge of blood due to a burst blood vessel, into the brain or spinal cord. This can cause speech disturbances, slow pulse, labored breathing, incontinence, unconsciousness, and death. See a doctor.

Immediately 3 + 230; then 6.3 + 148, 20, 72, 95, 125, 428, 444 + 1865, 522, 590, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 832, 880, 1600, 1800, 2170, 2720, 10K 40K

Stroke Paralysis / Apoplexy

Stop! See warning (box) at the beginning of this section.
 Sudden lessening or loss of consciousness with paralysis, due to a stroke. To care for someone who has just had a stroke, keep the environment quiet and comfortable,

move the person frequently to avoid bedsores, and keep him or her warm if pulse is weak and temperature is low. See a doctor.

3 + 230, 20, 40, 72, 95, 125, 146, 152, 293, 330, 333 + 523 + 768 + 786, 428, 442, 444 + 1865, 522, 555, 600 + 625 + 650, 622, 660 + 690 + 727, 751, 787, 797, 800, 880, 1146, 1800, 2720, 8176, 10K, 40K

Tachycardia

Stop! See warning (box) at the beginning of this section.
 Abnormal rapid heart action.

1.2 + 250

Thrombocytopenic Purpura / Werlhof's Disease

Stop! See warning (box) at the beginning of this section.
 Abnormal discharge of blood from the mucous membranes into the surrounding tissues, causing purplish blotches in the skin and accompanied by reduction of blood platelets (clear blood cells) and enlargement of spleen.

452, 660 + 690 + 727

Thrombophlebitis / Thrombosis, Infective

Stop! See warning (box) at the beginning of this section.
 The formation of a blood clot. Do not use electrodes. If the clot that causes the vein inflammation is dislodged, it can cause a heart attack (death of an area of the heart due to an interrupted blood supply), a stroke (a temporary reduction of blood and oxygen in the brain due to blood vessel blockage), a hemorrhage (abnormal discharge of blood from a blood vessel into surrounding tissue or outside of the body), or an embolism (the obstruction of a major blood vessel by a blood clot or clump of other material).

20, 72, 95, 125, 444 + 1865, 660 + 690 + 727, 685, 776, 787, 802 + 1550, 880, 1489, 1500, 1800, 2170, 2720, 2489

Ulcer, Ventricular

Stop! See warning (box) at the beginning of this section.
 Open wound in one of the chambers of the heart.

142, 232, 566, 676, 769, 770, 10K

Varicose Veins

Stop! See warning (box) at the beginning of this section.
 Distended and swollen veins, sometimes bulging on the surface of the skin.

1.2 + 250, 28

Vein Inflammation

See "Phlebitis" in this section.

End of Heart, Blood and Circulation section.

Always use 40K for tissue regeneration.

HEARTBURN

See under **GASTROINTESTINAL TRACT**, *Stomach and Esophagus*.

HEARTWORM

See “*Dirofilaria immitis* / *Dirofilariasis* / Heartworm” under **PARASITES, PROTOZOA AND WORMS**.

HEAVY METALS, DETOXIFYING FROM

See “Mercury, Aluminum, and Other Contaminants” under **CHEMICAL SENSITIVITY / POISONING**.

HEEL PAIN

See under **INJURIES**.

HELICOBACTER PYLORI

See under **GASTROINTESTINAL TRACT**, *Stomach and Esophagus* or **BACTERIA**.

HEMOCHROMATOSIS

Known as “iron overload” or “iron storage disease,” due to abnormal iron metabolism that permits absorption of too much iron from an ordinary diet. This condition is usually hereditary but can also be acquired. Symptoms include chronic fatigue (most common); cirrhosis or cancer of the liver; arthritis and joint pain; impotence, sterility or infertility; menstruation irregularities or problems; hair loss; diabetes; cancer (cancer thrives on iron); abdominal pain or swelling; weight loss; frequent infections; immune dysfunction; headaches; hypothyroidism; heart problems; and even death. This range of symptoms is due to the ability of excess iron to injure virtually all body organs and systems.

This condition is *not* considered a blood disorder per se, although some of its effects appear in the blood. It can be managed by early detection and the adequate mechanical removal of iron, done by a doctor. People can have an iron overload and be asymptomatic, or be anemic and still have this disorder; so get the proper testing.

Rife researcher James Bare reports that abnormal red blood cells that have formed in people with hemochromatosis respond to 5K, with a “significant drop” if the sessions run for at least an hour at a time. The abnormally large spleen that can accompany this condition has even been reported to reduce significantly in size. We do not know if this same effect happens in people with normal red blood cells.

5K

Also try: 40K (for as long as desired)

HEMOPHILIA

See under **HEART, BLOOD AND CIRCULATION**.

HEMORRHAGE

See under **HEART, BLOOD AND CIRCULATION**.

HEMORRHAGIC FEVER

See “Ebola virus / Ebola hemorrhagic fever” under **VIRUSES**.

HEMORRHOID

See under **GASTROINTESTINAL TRACT**, *Colon / Large Intestine*.

HEPATITIS, ALL TYPES

See under **LIVER AND GALLBLADDER**, *Liver*.

HERNIA, GENERAL

Part of an organ internally or externally projects from its natural cavity.

9.1, 110, 787, 660 + 690 + 727, 2720, 5K, 10K, 40K

HERNIA OF THE STOMACH

See “Hiatal Hernia” under **GASTROINTESTINAL TRACT**, *Stomach and Esophagus*.

HERPES, ALL TYPES

See under **VIRUSES**.

HIATAL HERNIA

See under **GASTROINTESTINAL TRACT**, *Stomach and Esophagus*.

HICCUPS

See under **RESPIRATORY TRACT**, *Vocal Cords*.

HIGH BLOOD PRESSURE / HYPERTENSION

See under **HEART, BLOOD AND CIRCULATION**.

HIP PROBLEMS, ALL

See under **ARTHRITIS** or **BONE AND SKELETON**.

HISTOPLASMA / HISTOPLASMOSIS

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

HIV

See under **VIRUSES**.

HIVES

See under **SKIN**.

HOARSENESS

See “Laryngitis or Hoarseness” under **RESPIRATORY TRACT**, *Vocal Cords*.

HODGKIN’S DISEASE

See under **CANCER**.

HONG KONG FLU

See “Influenza” under **VIRUSES**.

HOOF AND MOUTH DISEASE

See “Aphthovirus / Foot and Mouth Disease / Hoof and Mouth Disease” under **VIRUSES**.

HOOKWORM

See under **PARASITES, PROTOZOA AND WORMS**.

HORMODENDRUM

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

HORMONAL CONDITIONS

See entries specific to your problem under **GLANDS, WOMEN, or MEN**.

HOSPITAL-ACQUIRED INFECTIONS

See **IATROGENIC INFECTIONS**.

HOT FLASHES

See under **WOMEN, *Menstruation and Menopause***.

HUMAN IMMUNODEFICIENCY VIRUS

See “HIV (Human Immunodeficiency Virus) / AIDS (Acquired Immune Deficiency Syndrome)” under **VIRUSES**.

HUMAN PAPILLOMA VIRUS (HPV)

See “*Papilloma Virus* / Human *Papilloma Virus* (HPV)” under **VIRUSES**.

HYDROCELE

See under **MEN, *Testicles***.

HYPERACIDITY

See **ACIDOSIS**.

HYPERACIDITY OF STOMACH

See under **GASTROINTESTINAL TRACT, *Stomach and Esophagus***.

HYPERADRENOCORTICISM / HYPERCORTISOLISM

See “Cushing’s Syndrome / Cushing’s Disease / Hyperadrenocorticism / Hypercortisolism” under **GLANDS, *Adrenals***.

HYPERGLYCEMIA

See “Diabetes / High Blood Sugar / Hyperglycemia” under **BLOOD SUGAR PROBLEMS**.

HYPERINSULINISM

See “Hypoglycemia / Low Blood Sugar / Hyperinsulinism” under **BLOOD SUGAR PROBLEMS**.

HYPEROSMIA

See “Odor Sensitivity, Abnormal / Hyperosmia” under **RESPIRATORY TRACT, *Nose and Sinuses***.

HYPERTENSION

See “Blood Pressure, High / Hypertension” under **HEART, BLOOD AND CIRCULATION**.

HYPERTHYROIDISM

See “Thyroid, Overactive / Hyperthyroidism” under **GLANDS, *Thyroid***.

HYPOACIDITY OF STOMACH

See under **GASTROINTESTINAL TRACT, *Stomach and Esophagus***.

HYPOCORTISOLISM

See “Addison’s Disease / Primary Adrenal Insufficiency / Hypocortisolism” under **GLANDS, *Adrenals***.

HYPOGLYCEMIA

See under **BLOOD SUGAR PROBLEMS**.

HYPOTENSION

See “Blood Pressure, Low / Hypotension” under **HEART, BLOOD AND CIRCULATION**.

HYPOTHALAMUS FUNCTION, TO BALANCE

See under **REGENERATION AND HEALING**.

HYPOTHYROIDISM

See “Thyroid, Underactive / Hypothyroidism” under **GLANDS, *Thyroid***.

HYPOXEMIA

Insufficient oxygenation of the blood. This condition can have many causes, from microbial and parasitic infections to poor nutrition. Also see various entries under **HEART, BLOOD AND CIRCULATION** and **CHEMICAL SENSITIVITY / POISONING**.
20, 660 + 690 + 727, 780, 787, 40K

—|—

IATROGENIC INFECTIONS

Acquired in hospitals. Symptoms are numerous and can affect any area of the body, including the urinary, respiratory and gastrointestinal tracts; ears; sinuses; and skin. It’s difficult to present a comprehensive list because so many infections can be caught in a hospital. Some of the most common are the bacteria *Strep*, *Staph*, and *MRSA*. See entries specific to your condition.

146, 333 + 523 + 768 + 786, 424, 428, 434, 444 + 1865, 465, 522, 590, 594, 660 + 690 + 727, 776, 787, 802 + 1550, 832, 834, 880, 1500, 1600, 1800, 2170

ICTERUS, HEMOLYTIC

See under **LIVER AND GALLBLADDER, *Liver***.

ILEOCOLITIS

See “Colitis / Irritable Bowel Syndrome (IBS)” under **GASTROINTESTINAL TRACT, *Colon / Large Intestine***.

IMMUNE SYSTEM DISORDERS

See **AUTOIMMUNE DISORDERS**.

IMMUNE FUNCTION IMPROVEMENT

See “Immune Function, to Normalize / Support” under **REGENERATION AND HEALING**.

IMPOTENCE AND FRIGIDITY, MANY TYPES

See “Sexual Function” under **MEN** or **WOMEN**.

INCLUSION BODY MYOSITIS (IBM)

Progressive, inflammatory disease of muscle weakness and degeneration. Similar to polymyositis, the weakness occurs gradually (over months or years). Symptoms may begin with falling and tripping, or difficulty using the hands to grip and pinch, making tasks like buttoning clothing difficult. All muscles in the body are susceptible to shrinking. Difficulty swallowing occurs in about half of those with IBM, which can culminate in choking. IBM affects men more frequently than it does women, and symptoms usually begin after age 50. Allopathic doctors currently have no treatment, only physical therapy to help maintain mobility.

It's not clear which comes first: inflammation; the continual, stressful presence of antigens (molecules that stimulate an exaggerated immune response causing muscle fiber damage); or the accumulation of abnormally-folded proteins called ubiquitin. Ubiquitin, which is not present in other muscle illnesses, causes muscle fibers to degenerate in cases of IBM.

Some researchers believe that IBM may be caused by a retrovirus (see Chapter 1, **The Vaccine Controversy**). Sauna and ozone therapies could help. Also see **AUTOIMMUNE DISORDERS**; **VIRUSES**, “Retrovirus, variants”; applicable entries under **MUSCLES**; the many entries under **CHEMICAL SENSITIVITY / POISONING**; **BACTERIA**, “*Mycoplasma*, many types” (as *Mycoplasma* can cause autoimmune conditions); and **REGENERATION AND HEALING** (make sure to use 40K).
From Dr. John Garvey: 122, 1124, 1169

INCONTINENCE

See under **URINARY TRACT**, *Bladder and Urethra*.

INDIGESTION / DYSPEPSIA

See under **GASTROINTESTINAL TRACT**, *Systemic Conditions*.

INFANTILE PARALYSIS

See “Polio / Poliomyelitis” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

INFECTIONS, NON-SPECIFIC

Look up precise symptom picture(s) and/or microorganisms under **BACTERIA**; **CANDIDA, FUNGI, MOLDS AND YEASTS**; **PARASITES, PROTOZOA AND WORMS**; or **VIRUSES**. If you can't guess what pathogen is infecting you, go to the section that highlights the *body part* that's affected (respiratory tract, gastrointestinal tract, etc.).

You can also try the frequencies below for commonly occurring pathogens, but don't be discouraged if they don't help you. It simply means that you haven't targeted the correct pathogen (yet).

First try: 1.2 + 250, 20, 48, 72, 95, 125, 304, 422, 444 + 1865, 464, 660 + 690 + 727, 676, 766, 333 + 523 + 768 + 786, 802 + 1550, 880, 5500, 40K (for as long as desired)

Then try: 428, 440, 600 + 625 + 650, 700, 760, 776, 787, 832, 1500, 1600, 2112, 2170, 5K

And then try: 450, 500, 610 + 692 + 980, 732, 751, 1800, 1850, 2008, 2720, 2489, 3040, 4K

INFECTIOUS MONONUCLEOSIS

See “Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)” under **VIRUSES**.

INFECTIVE THROMBOSIS

See “Thrombophlebitis / Thrombosis, Infective” under **HEART, BLOOD AND CIRCULATION**.

INFERTILITY

See “Sexual Function” under **MEN** or **WOMEN**.

INFLAMMATION

Inflammation (a huge category) is the body's way of dealing with irritation, whether caused by chemicals, friction, heat, pathogens, or toxins. An area becomes inflamed due to the many types of scavenger cells, which have traveled to the site to ingest dead and damaged tissue and act as a cushion or barrier between the injured tissue and surrounding areas. Inflammation also results from increased blood flow, which occurs to bring nutrients, oxygen and hormones to the repair site. Inflammation is different from infection, although one may arise from the other. Local infection often causes swelling, which contains the infection and protects the surrounding tissues from being invaded by escapee pathogens. On the other hand, when non-pathogenic swelling occurs (as in an injury), and if the scavenger cells cannot break down and digest the damaged tissue quickly enough, the injured cells putrefy, resulting in an infection due to pathogens, endogenous toxins, or both. Typically, the body's initial inflammatory response is hypervigilant: the swelling causes the circulation in the area to slow down, which prevents healing. This is why cold first, and later cold alternating with heat, is used to eliminate the swelling. Cold contracts the tissues, which squeezes waste out of the affected area. Heat expands the tissues. Alternately using cold and heat causes a pumping motion, which gets the dense lymph tissue moving. This allows wastes to be processed and escorted out of the body.

Eliminate sugars from the diet, even those naturally occurring in fruits. Sugar causes inflammation, and impedes the ability of nerves to carry the correct signals. Avoid foods in the nightshade category: white and yellow potatoes, tomatoes, bell and hot peppers, and eggplant, which (like their relative, tobacco) contain poisonous alkaloids that cause swelling of the joints and tissues. Omega 3 fish oils help correct inflammation and repair all types of tissues, including nerves and blood vessel linings.

Curcumin, a component of turmeric root (used in Indian cooking) significantly reduces the effects of inflammatory cytokines in human fat tissue. Other anti-inflammatory agents are ginger root and the herb *Boswellia serrata*. White

blood cells require enzymes to break down the waste products of inflammation (and infection), so proteolytic (protein-digesting) enzymes such as protease and bromelain can also help. CBD from *Cannabis* offers great relief as well.

Of the frequencies for many types of inflammation, note that 6.3 and 3.6 are also used for irritability and whining. For muscle- and tendon-related inflammation, see **MUSCLES**. For nerve-related inflammation, see **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**. Also see **INJURIES** and **REGENERATION AND HEALING**.

1.3, 10.5, 3.6, 6.3 + 148, and 2489 and 2720 for pain

INFLAMMATORY BOWEL DISEASE (IBD)

See “Crohn’s Disease / Inflammatory Bowel Disease (IBD)” under **GASTROINTESTINAL TRACT, Colon / Large Intestine**.

INFLUENZA VIRUSES, MANY

See under **VIRUSES**.

INJECTIONS AND INOCULATIONS, TO DETOXYFY FROM

See “Vaccinations, Reactions to” under **CHEMICAL SENSITIVITY / POISONING**.

INJURIES

For muscle, ligament, and other soft tissue tears, pad units are usually more effective than plasma. Place electrodes on either side, or at the front and back, of the inflammation site.

Both cold and heat are used. Cold packs work best within 72 hours of an injury. They constrict blood vessels, preventing an unhealthy accumulation of blood and lymph at the injury site. Leave the cold pack on until you cycle through “C-BAN”: Cold, Burning, Aching, and eventually Numbing. This should take about 15 or 20 minutes. Then remove the cold pack for 15–30 minutes. After two or three rounds, the swelling should decrease. After the swelling has subsided, use heat. Heat brings blood (and thus oxygen and nutrients) to the area.

Also see entries under **MUSCLES; BONE AND SKELETON; BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**; and especially **INFLAMMATION**, for tips on additional protocols.

Always use 2720 (a good overall frequency for pain), 10K and especially 40K (for tissue restoration), and frequencies for your specific symptoms.

Backache, including Spasms

A spasm is a movement due to a sudden involuntary muscular contraction. It can be quite painful. Many microbes can be involved, particularly *Staphylococcus*. Please note that these frequencies are not a substitute for a chiropractic adjustment if the skeletal alignment is off or the spinal cord is torqued or twisted. Muscle spasms often indicate a magnesium deficiency. Also see entries under **URINARY TRACT, Kidneys**, as pain in the lower back can sometimes indicate kidney inflammation or infection. From Dr. Richard Loyd (for neck pain too, and in this order): 130.81, 146.83, 164.81, 174.61, 196, 220.2, 246.94, 130.81, 146.83, 164.81, 174.61, 196, 220.2,

246.94, 138.57, 155.56, 185, 207.65, 233.08, 138.57, 155.56, 185, 207.65, 233.08, 4.9, 6, 9.19

Then try: 519.34 for 20 minutes

Then try: 677 (for 20 minutes), 760 (for 10 minutes), and sweep 326–328

And then try: 26 (for 15 minutes), 33, 41.2, 120, 146, 160, 212, 240, 305 (for 6 minutes), 326, 333 + 523 + 768 + 786, 424, 464, 465, 466, 522, 528, 555, 660 + 690 + 727, 760, 784, 787, 789, 800, 802 + 1550, 880, 1552, 2112, 2720 (for as long as needed), 3K, 5K, 10K, 40K

Bruise / Contusion

Pain, swelling and discoloration of skin, without any cuts or breaks in the skin.

9.1, 110, 2720, 10K, 40K

Bursitis

Inflammation of connective tissue, mainly around joints. This condition may be caused by a great many pathogens. Also experiment with the arthritis, tendomyopathy, and sprain frequencies. White blood cells require enzymes to break down the waste products of inflammation (as well as infection), so taking proteolytic (protein-digesting) enzymes such as protease and bromelain may help.

660 + 690 + 727, 787, 880, 10K, 40K

Carpal Tunnel Syndrome / Repetitive Stress Injury (RSI)

Inflammation of the forearm, wrist and fingers, due to repetitive motion that places excessive stress on the tendons, ligaments, and musculature. Some research indicates that 15 Hz helps escort calcium into the cells.

6.3 + 148, 15, 20.5, 146, 444 + 1865, 465, 522, 600 + 625 + 650, 660 + 690 + 727, 685, 700, 737, 760, 776, 787, 802 + 1550, 832, 880, 1K, 1500, 2008, 10K, 40K

Chilblains

Inflammation and swelling of the feet, toes, or fingers due to blood vessel injury during prolonged exposure to cold. Symptoms may also include skin lesions. Also see “Frostbite” in this section.

20, 232, 622, 822, 2112, 4211, 5K, 10K, 40K

Disc, Slipped / Spine, Misaligned

Misaligned vertebra of the spine that pinches a nerve, causing pain and interfering with the posture and function of the body. Some researchers believe that slipped discs are a result of spasms from microbial toxins. You may still need a chiropractic adjustment to align the disc.

20, 26, 57, 72, 95, 125, 146, 333 + 523 + 768 + 786, 555, 787, 660 + 690 + 727, 880

Elbow pain / Epicondylalgia

1.2 + 250, 26, 160, 2720, 3K, 10K, 40K

Fibromyalgia

See **FIBROMYALGIA**.

Frostbite

Freezing of body extremities (fingers, toes, earlobes and nose), which injures the blood vessels. Symptoms include tingling, redness and pain, followed by paleness and numbing. Warm the core of the body first (and administer hot drinks), and gradually warm the extremities. Even people with blackened limbs (which usually are amputated) sometimes recover. Also see “Chilblains” in this section.
660 + 690 + 727, 787, 880

Frozen Shoulder

See “Shoulder, Frozen” in this section.

Head Injuries

For a head injury, get medical help immediately because there might be swelling of the brain, which can persist years after the initial event.
4.9, 5.8, 9.6, 72, 160, 522, 660 + 690 + 727, 787, 880, 3K, 40K

Headaches caused by Vertebral Misalignment

For other types of headaches, see headaches. This is not meant to replace an adjustment by a chiropractor.
1.2 + 250, 9.6, 160, 3K

Heel Pain / Plantar Fascitis

Inflammation of the fascia, or elastic connective tissue that envelops muscle, at the bottom of the foot. Can be caused by stressing the feet via excess jogging, walking or climbing, or by wearing shoes with no arch support or cushioning. Ice the feet. Place a foot on top of a golf ball and roll on it to break up adhesions (it works very well); or try gentle foot massage. This has no known frequencies.

Knee Pain

See a chiropractor to rule out subluxation or other structural causes. Use a pad unit.
1.2 + 250, 3 + 230, 7.69, 7.7, 9.39, 9.4, 9.6, 20, 28, 73, 160, 660 + 690 + 727, 787, 802 + 1550, 880, 2720, 3K, 40K

Ligament Sprain

Ligaments are connective tissue made up of long, stringy collagen fibers, which connect the ends of bones together to form a joint. When torn, they cause pain and swelling. Below are frequencies for pain due to injury, stiff neck, and some arthritis frequencies. Also see “Tendomyopathy” and other entries under **MUSCLES**.
0.5, 1, 1.1 + 73, 1.2 + 250, 4.9, 5.8, 9.19, 9.2, 9.4, 9.7, 10, 20, 20.5, 35, 40, 50, 80, 120, 125, 320, 2720, 10K
To further stimulate healing: 40K (as long as desired)

Lumbago

Muscular ache across loins due to either too rapid cooling of overheated region, or unnatural twisting.

Supplemental Therapies for Injuries to reduce swelling and pain and speed healing

Electromedicine

- ◆ **Magnetex[®], Avazzia[™], Tennant Biomodulator[®], BEMER[®], Wave Therapy, LEDs.** See Appendix C.
- ◆ **Tuning Element[™] Relief Patches.** See Appendix C.
- ◆ **Spectro-Chrome Color Therapy.** Inexpensive and low-tech. See Chapter 3.

Homeopathy

- ◆ **Arnica, Hypericum, Ruta Grava.** 9C, 12C, or 30C dose.
- ◆ **Rescue Remedy[®], T-Relief[®], above remedies together.** Combination formulas available as liquid, pellets, or in ointment/cream form. Apply creams externally.

Analgesic Creams / Gels / Sprays

- ◆ **Tiger Balm[®] and similar preparations** containing menthol, wintergreen, natural camphor, clove, mint, cassia, and other herbs.

Enzymes (oral supplements and creams)

- ◆ **Protease. Bromelain. Papain. Lumbrokinase. Nattokinase. Serrapeptase.** Take orally on an empty stomach so they scavenge protein debris in blood instead of digesting food. Apply creams topically.

7.69, 7.7, 9.19, 9.2, 8.25, 72, 95, 125, 300, 444 + 1865, 660 + 690 + 727, 787, 800, 802 + 1550, 880, 10K

Neck Pain

15, 17, 326

From Dr. Richard Loyd (for back pain as well, and in this order): 130.81, 146.83, 164.81, 174.61, 196, 220.2, 246.94, 130.81, 146.83, 164.81, 174.61, 196, 220.2, 246.94, 138.57, 155.56, 185, 207.65, 233.08, 138.57, 155.56, 185, 207.65, 233.08, 4.9, 6, 9.19

Neck, Stiff, including Spasticity

Pain and stiffness along with involuntary sudden movement or convulsive muscular contraction.
4.9, 6, 9.19, 9.2

Pain due to Injury

0.5, 1, 1.1 + 73, 1.2 + 250, 10.5, 20.5, 5.8, 10, 20, 35, 40, 80, 125, 160, 320, 240, 2720 (for at least 20 minutes, preferably longer, even up to one hour), 6K, 10K, 40K

Plantar Fascitis

See “Heel Pain / Plantar Fascitis” in this section.

Repetitive Stress Injury (RSI)

See “Carpal Tunnel Syndrome / Repetitive Stress Injury (RSI)” in this section.

Shoulder, Frozen

Painful shoulder area, often worse at night, that severely limits mobility and primarily affects the tendons or connective tissue near joints.

660 + 690 + 727, 776, 787, 802 + 1550, 880, 10K, 40K (for as long as desired)

Slipped Disc

See “Disc, Slipped / Spine, Misaligned” in this section.

Sprain

Partial rupture or twisting of a joint, its tendon and ligament attachments, and perhaps the muscle as well. The tissue fibers are torn, causing pain and swelling. I have not seen any listings for sprains per se, but the ones below may apply: frequencies for stiff neck, some arthritis frequencies, and especially pain due to injury. Also see “Tendomyopathy” and other entries under **MUSCLES**.

0.5, 1, 1.1 + 73, 1.2 + 250, 20.5, 4.9, 5.8, 9.19, 9.2, 9.4, 10, 20, 35, 40, 80, 125, 320, 2720, 10K, 40K (for as long as desired)

Subluxation / Spine Distortion

Twisting of muscles and spine. Dislocation of bones or organs, which can pinch nerves and cause pain. This is not a substitute for a chiropractic adjustment.

9.1, 9.6, 66, 110

Tendomyopathy

Infirm condition of both the muscles and tendons, causing inflammation and pain. Also see “Tendon Tear” in this section.

0.5, 1, 1.1 + 73, 1.2 + 250, 10.5, 20.5, 4.9, 5.8, 9.2, 9.4, 10, 20, 26, 40, 80, 146, 160, 320, 465, 522, 2720, 3K, 40K (for as long as desired)

Tendon Tear

Partial rupture or twisting of a joint and its tendon attachments, long connective tissue fibers that attach muscles to bones. Sometimes the ligaments—short bands of fibrous connective tissue that connect bone to bone—are involved as well. The tissue fibers are torn, which causes pain and swelling. I have not seen any listings for sprains, so below are frequencies for pain due to injury, stiff neck, and some arthritis frequencies. Also see “Tendomyopathy” in this section and the many entries under **MUSCLES**.

0.5, 1, 1.1 + 73, 1.2 + 250, 4.9, 5.8, 9.19, 9.2, 9.4, 10, 20, 20.5, 35, 40, 80, 120, 125, 320, 2720, 10K

Tennis Elbow

An unscientific term for a common injury acquired in tennis players, due to repetitive motion.

8, 734

Whiplash

See “Head Injuries” and other entries in this section. Whiplash is serious because it can cause the brain to swell—and the swelling can persist for decades and cause multiple problems, many of them serious. See a qualified health practitioner!

20, 2720, 10K, 40K

End of Injuries section.

INOCINE PRODUCTION, TO STIMULATE AND NORMALIZE

See under **REGENERATION AND HEALING**.

INSECT BITES

Insect bites are more than simply painful. In some cases, they can cause serious damage or even death. To prevent the venom from spreading and stop the pain and itching, some people use microcurrent—generated by a zapper, Avazzia™, Tennant Biomodulator®, or similar device (see Appendix C). Current neutralizes toxins from insects and poisonous snakes by denaturing the proteins in the venom. To draw out the poisons, make a poultice of raw mashed white onion, bentonite or green clay, or activated charcoal, adding optional colloidal silver or tea tree oil. Also apply iodine or hydrogen peroxide at the site of the bite to prevent infection. Papain (papaya enzyme) breaks down the proteins of spider venom. In some parts of the world, fermented papaya cream is available, made solely of papaya fruit and a preservative. To help with healing afterwards, use essential oil of lavender. In serious cases, see a doctor! Also see **SNAKEBITES**.

Insect Bites, General

660 + 690 + 727, 880

Black Widow Spider Bite

The Black Widow is considered the most venomous spider in North America. Bites are uncommon. The spiders are most likely to bite when guarding their eggs. The severity of reaction depends on the area of the body bitten, the amount of venom injected, and depth of the bite. Sometimes the bite is not even felt. Initially there may be only slight swelling and two faint red spots in the area of the bite. More serious symptoms include intense abdominal, back and foot pain; swollen eyelids; cramps; nausea and vomiting; sweating; tremors; labored breathing and speech; and unconsciousness, convulsions and death if the person does not receive immediate medical attention. If you have a heart condition and have been bitten, see a doctor.

376, 660 + 690 + 727

Brown Recluse Spider Bite

Refers to the species *Loxosceles reclusa*, found mainly in the southern and midwestern portions of the United States. Causes stinging, intense pain, and usually a

small white blister that becomes larger and gangrenous; accompanied by fever, chills, nausea, weakness and joint pain within two days. The spider burrows into unused clothing, clutter, and corners of furniture, biting only if disturbed. Fatalities are rare, but bites are dangerous to children, the elderly, and those with compromised immune function. The venom from the bite can cause scarring, and the ulcerating sore may take up to eight weeks to heal. Some people don't feel the bite, and are aware of being bitten only later when they see dead tissue and there's an infection.

724, 884, 1830, 3260, sweep 29K–30,022

From Jeff Sutherland: 30008, 444434, 767766

Deer Tick Bite

See, under Bacteria, “*Ehrlichia chaffeensis* / Ehrlichiosis,” “*Rickettsia rickettsii* / Rocky Mountain Spotted Fever” and “*Borrelia*, all types / Borreliosis / Lyme Disease,” as well as **PARASITES, PROTOZOA AND WORMS**, “*Babesia* / Babesiosis.”

Yellow Fly Bite

Causes pain, itching, and sometimes severe allergic reactions. In the southeastern United States (mostly Florida), about a dozen different yellow-bodied biting flies—including deer flies and horse flies—in the family *Tabanidae* are called “yellow flies,” although entomologists (insect scientists) regard only one species, *Diachlorus ferrugatus*, as yellow fly. These flies feed on humans and wild and domestic animals. They're prevalent from March through November, peaking in numbers from May through June. They are most active during the early morning, late afternoon and early evening, in shady forests.

996

End of Insect Bites section.

INSOMNIA

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

INTERCOSTAL NEURALGIA

See “Neuralgia, Intercostal” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

INTERMITTENT CLAUDICATION

See under **HEART, BLOOD AND CIRCULATION**.

INTERSTITIAL CYSTITIS

See under **URINARY TRACT, Bladder and Urethra**.

INTESTINAL CANCER

See under **CANCER**.

INTESTINAL FLUKE

See “Fluke, Intestinal, including *Fasciolopsis buski*” under **PARASITES, PROTOZOA AND WORMS**.

INTESTINAL PROBLEMS, ALL

See **Colon / Large Intestine** and **Small Intestine**, both under **GASTROINTESTINAL TRACT**.

IRRITABLE BOWEL SYNDROME

See “Colitis / Irritable Bowel Syndrome (IBS)” under **GASTROINTESTINAL TRACT, Colon / Large Intestine**.

ITCHING, ANAL / PRURITUS

See “Anus, Itching / Pruritus” under **GASTROINTESTINAL TRACT, Colon / Large Intestine**.

—J—

JAUNDICE / BILIRUBINEMIA

See under **LIVER AND GALLBLADDER, Liver**.

JAW PAIN

See “Teeth Grinding / TMJ Problems / Jaw Pain” under **DENTAL, Teeth**.

JOCK ITCH

See under **MEN, Penis** or **WOMEN, Vagina, Labia and Clitoris**.

JOINT PAIN

See various entries under **ARTHRITIS**.

—K—

KALA-AZAR

See “*Leishmania*, all types” under **PARASITES, PROTOZOA AND WORMS**.

KAPOSI'S SARCOMA

See “HIV (Human Immunodeficiency Virus) / AIDS (Acquired Immune Deficiency Syndrome)” under **VIRUSES**.

KERATOSIS PILARIS

See under **SKIN**.

KIDNEY PROBLEMS, ALL

See under **URINARY TRACT, Kidneys**.

KIEFEROSTEITIS

See under **BONE AND SKELETON**.

KLEBSIELLA PNEUMONIAE

See under **BACTERIA**.

Cats Give Themselves Rife Sessions

Why do cats purr? . . . [They purr when they're] . . . content. . . frightened, severely injured, giving birth and even while dying. For the purr to exist in different cat species over time, geographical isolation, etc., there would likely have to be something very important (survival mechanism) about the purr. There also would have to be a very good reason for energy expenditure (in this case creation of the purr) when one is physically stressed or ill. The vibration of the cat's diaphragm, which with the larynx, creates the purr, requires energy. If an animal is injured they would not use this energy unless it was beneficial to their survival. . . .

Most people have heard of a cat's "nine lives." There is also an old veterinary adage still repeated in veterinary schools which states, "If you put a cat and a bunch of broken bones in the same room, the bones will heal." Any veterinary orthopedic surgeon will tell you how relatively easy it is to mend broken cat bones compared with dog bones, which take much more effort to fix, and take longer to heal. There is excellent documentation of the cats' quick recovery from . . . [falling from] high-rise [buildings]. . . . [Researchers] documented 132 cases of cats plummeting many stories from high rise apartments (average 5.5 stories), some suffering severe injuries. . . . 90% of these cats survived. . . . There is another clue found in a study performed by Dr. T.F. Cook (1973), "The Relief of Dyspnoea in Cats by Purring," in the *New Zealand Veterinary Journal*. A dying cat who could not breathe (they were considering euthanasia) was found to breathe normally once it began purring. The purring opened up the cat's airway, and improvement was "remarkable and the next day [the cat] commenced to eat. . . ." Three species of cats have a strong harmonic at exactly 100 Hz, the vibrational frequency found to relieve dyspnea; one species [is] within 2 Hz and one species within 7 Hz of 100 Hz. It could be that the cat's purr decreases the breathlessness by vibratory stimulation.

Fauna Communications has recorded many cats' purrs at a non-profit facility and the Cincinnati Zoo, including the cheetah, puma, serval, ocelot and the domestic house cat. After analysis of the data, we discovered that:

- ◆ The dominant and fundamental frequency for three species of cats' purrs is exactly 25 Hz or 50 Hz, the best frequencies for bone growth and fracture healing. All of the cats' purrs all fall well within the 20–50 Hz . . . range, and extend up to 140 Hz. All the cats except the cheetah have a dominant or strong harmonic at 50 Hz.
- ◆ The harmonics of three cat species fall exactly on or within two points of 120 Hz which has been found to repair tendons. One species [is] within 3 Hz and one within 7 Hz.

- ◆ Eighteen to thirty-five Hz is used in therapeutic biomechanical stimulation for joint mobility. Considering the small size of many of these cats, especially the domestic cats, it is interesting to note that all of the individual cats have dominant frequencies within this range. In fact, some of the cats have two to three harmonics in this range.
- ◆ The frequencies for therapeutic pain relief are from 50–150 Hz. All of the individual cats have at least five sets of strong harmonics in this range.
- ◆ Therapeutic frequencies for the generation of muscle strength [are from] 2–100 Hz. All of the individual cats have at least four sets of strong harmonics in this range.
- ◆ Therapy for COPD [Chronic Obstructive Pulmonary Disease] uses 100 Hz; all of the individual cats have a dominant frequency of exactly 100 Hz.

Is it possible that evolution has provided the felines of this world with a natural healing mechanism for bones and other organs? Researchers at Fauna Communications believe so.

Being able to produce frequencies that have been proven to improve healing time, strength and mobility could explain the purr's natural selection. In the wild when food is plentiful, the felids are relatively sedentary. They will spend a large portion of the day and night lounging in trees or on the ground. Consistent exercise is one of the greatest contributors to bone, muscle, tendon and ligament strength. If a cat's exercise is sporadic, it would be advantageous for them to stimulate bone growth while at rest. . . . Therefore, having an internal vibrational therapeutic system to stimulate healing would be advantageous, and would also reduce edema and provide a measure of pain relief during the healing process.

In summary: vibrations between 20 Hz and 40 Hz are therapeutic for bone growth/fracture healing, pain relief / swelling reduction, wound healing, muscle growth and repair, tendon repair, mobility of joints and the relief of dyspnea. . . . Cats do not have near the prevalence of orthopedic disease or ligament and muscle traumas as dogs do. . . . [Also, the] non-union of fractures in cats is rare. Osteo [bone] diseases . . . are rarely found in cats but can be found in all breeds and sexes of dogs. . . . It is suggested that purring be stimulated as much as possible when cats are ill or under duress. If purring is a healing mechanism, it may just help them to recover faster, and perhaps could even save their [lives].

—Elizabeth von Muggenthaler
 excerpted from "The Felid Purr: A bio-mechanical
 healing mechanism," 2001 and 2006

KNEE PAIN

See under **ARTHRITIS** or **INJURIES**.

KURU

See **PRIONS** / **AMYLOIDOSIS**.

—L—

LARGE INTESTINE / COLON DISORDERS, ALL

See under **GASTROINTESTINAL TRACT**, *Colon* / *Large Intestine*.

LARYNX CONDITIONS, ALL, INCLUDING LARYNGITIS

See under **RESPIRATORY TRACT**, *Vocal Cords*.

LATERAL SCLEROSIS

See “Amyotrophic Lateral Sclerosis (ALS)” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

LAXATIVE EFFECT

See under **GASTROINTESTINAL TRACT**, *Systemic Conditions*.

LEAKY GUT SYNDROME

See under **GASTROINTESTINAL TRACT**, *Small Intestine*.

LEG CRAMPS CAUSED BY ARTERIAL SPASM

See “Intermittent Claudication” under **HEART, BLOOD AND CIRCULATION**.

LEGIONNAIRE’S DISEASE

See “*Legionella pneumophila* / Legionellosis / Legionnaire’s Disease / Pontiac Fever” under **BACTERIA**.

LEISHMANIA, ALL TYPES

See under **PARASITES, PROTOZOA AND WORMS**.

LEMIERRE’S SYNDROME

See under **RESPIRATORY TRACT**, *Throat and Lymph Nodes*.

LEPROSY

See “*Mycobacterium leprae* / Leprosy / Hansen’s disease” under **BACTERIA**.

LEPTOSPIRA / LEPTOSPIROSIS

See under **BACTERIA**.

LESIONS, ORAL

See “Oral Lesions” under **DENTAL**, *Mouth and Gums*.

LEUKEMIA, ALL KINDS

See under **CANCER**.

LEUKOCYTOSIS

See under **CANCER**.

LEUKODERMA

See under **SKIN**.

LEUKOENCEPHALITIS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

LEUKOPLAKIA

See under **DENTAL**, *Mouth and Gums*.

LEUKORRHEA

See “Vaginitis” under **WOMEN**, *Vagina, Labia and Clitoris*.

LEUKOSIS

See “Leukocytosis / Leukosis” under **CANCER**.

LIGAMENT SPRAIN

See under **INJURIES**.

LIGHT SENSITIVITY

See “Photosensitivity” under **EYES**.

LIPOMA

See under **LIVER AND GALLBLADDER**, *Liver*.

LISTERIA MONOCYTOGENES / LISTERIOSIS

See under **BACTERIA**.

LIVER AND GALLBLADDER

The liver and gallbladder are complementary in function: they work together to aid digestion. In Chinese medicine, they share the same meridian. So, it’s not surprising to learn that they both grew from the same embryonic tissue that divided. One portion of tissue branches to form the liver, and the other branches to form the gallbladder.

Liver

The soft, pinkish-brown liver—weighing between 3 and 6½ pounds (1.3 to 3 kilograms)—is the second largest organ (the skin is the first). Located on the right side in the abdominal cavity just below the diaphragm, this remarkable organ has many jobs. It’s the waste disposal workhorse, detoxifying poisons and preventing them from recirculating through the bloodstream. It breaks down, or converts for the body’s use, pancreatic, thyroid, sex gland, and other hormones. It stores vitamins and minerals and activates Vitamin E. It helps with immune protection by producing antibodies (which help eliminate pathogens). When there’s too much glucose in the bloodstream, the versatile liver converts it to glycogen. However, if there’s too much glucose at one time for the liver to convert, the glucose gets stored as body fat.

The liver helps digest carbohydrates and proteins, but it’s best known for making bile to digest fats. It makes small amounts of bile at a time. What’s not needed immediately in the small intestine during a meal is stored in the gallbladder. Fatty foods burden a poorly functioning liver, requiring bile supplements—especially if the

Phase 1 and Phase 2 Liver Nutrients

The liver detoxifies in four stages. During Phases 1 and 2 especially, large amounts of many nutrients are required. During Phase 1, the liver produces *metabolites* (wastes) that can be more toxic than the original substances. During Phase 2, Phase 1 metabolites are neutralized or changed into more benign material. Many people feel bad during the first two phases because there are insufficient levels of nutrients for the liver to complete its job. Phase 2 nutrient deficiencies are common with chronic conditions.

Phase 1 Nutrients:

- ◆ Vitamins B2, B3, B6 and B12
- ◆ Folate
- ◆ Glutathione
- ◆ Flavonoids

Phase 2 Nutrients:

- ◆ Vitamins B5, B12 and C
- ◆ Amino acids: methionine, cysteine, glycine, glutamine and taurine
- ◆ Folate
- ◆ Choline
- ◆ Magnesium
- ◆ Glutathione



Herbal Support for the Liver (All Times)

- ◆ Milk thistle (Silymarin)
- ◆ Dandelion root
- ◆ Bupleurum

gallbladder has been removed (leaving no bile reserves in the body).

The liver is the only organ that routinely regenerates itself. As little as one-quarter of a liver can regenerate into a whole liver because most of its cells can act as stem cells, capable of creating any body tissue. Medical terms related to the liver are based on the Greek word *hepar* for liver.

Signs of an overworked liver include elimination and digestion issues: bloating, nausea, constipation, diarrhea, and especially stomach upset when eating fatty foods. Other symptoms are sensitivity to chemicals (tobacco smoke, perfumes, solvents, etc.); fibromyalgia; chronic fatigue; negative mental states (depression, irritability and anger); blood sugar fluctuations; hormone imbalances; circulatory problems; joint and muscle pain; headache at the eyes; pain between the shoulder blades; bad breath; body odor; and dark circles under the eyes. Another sign of liver distress is trouble losing or gaining weight, which makes sense because thyroxine, which is produced by the

thyroid gland and controls metabolism, is converted by the liver into the active form, liothyronine, that actually reaches the cells.

The most important nutrients for the liver are water, rest, and protein (although the liver won't work well, either, if you eat too much protein). Too many carbs and sugars impair liver function. Avoid noxious chemicals and harsh spices. Fresh vegetable juices, including some beet, will help. Eliminate most fats, especially dairy. Of course, don't eat fake or rancid fats such as canola, or any nut oils.

Also see **CHEMICAL SENSITIVITY / POISONING**.

Amoeba Hepar Abscess

Abscess, or cavity filled with pus (accumulated dead white blood cells), caused by amoebic infection.

344 + 510 + 943, 605

Amoebic Dysentery / *Entamoeba histolytica*

Entamoeba histolytica is a dangerous protozoan that causes amoebic dysentery, an infection of the liver and digestive tract. Symptoms include severe diarrhea, ulcerated open wound, fever, and blood in the stool. Also see **BACTERIA**, "*Salmonella typhi* / Typhoid Fever" and "*Shigella*."

First try (from Dr. Garvey): 148, 166, 308, 393, 631, 778

From Dr. Hulda Clark: 19168.02, 954.32

Then try: 333 + 523 + 768 + 786, 465, 660 + 690 + 727, 787, 802 + 1550, 832, 880, 1552 for accompanying infections.

Banti's Disease

Blood vessels between the liver and intestines become blocked, leading to anemia, vein congestion, an enlarged spleen, bleeding of the stomach and intestines, and ultimately cirrhosis of the liver.

1778

Biliary Cirrhosis

See "Cirrhosis of the Liver / Biliary Cirrhosis" in this section.

Biliary Headache

Headache from a toxic, overworked liver, often occurring after fatty meals.

3.5, 8.5

Biliousness

Excess bile in liver, with constipation, headache, and vomiting.

21.34, 465, 660 + 690 + 727, 787, 802 + 1550, 832, 880, 10K, 40K

Bilirubinemia

See "Jaundice / Bilirubinemia" in this section.

Cancer of the Liver

See “Liver Cancer” under **CANCER**.

Cirrhosis of the Liver / Biliary Cirrhosis

Inflammatory condition of the liver during which bile flow through the liver is obstructed.

381, 514, 677, 2271 (from Dr. John Garvey), 1250, 170, 715, 774, 776

Enlarged Liver

465, 660 + 690 + 727, 787, 880

Enterohepatitis

Inflammation of large intestine and liver.

552, 932, 953

Fluke, Liver / Oriental *Clonorchis sinensis*

Transmitted when raw fish is eaten, this fluke lodges in the liver bile ducts of humans, dogs, cats, pigs and rodents, thickening the duct lining and inflaming the surrounding liver tissue. It grows up to 10 inches long and infects about 30 million people primarily in Japan, Korea, China, Taiwan, and Vietnam.

2K

From Dr. Hulda Clark: 21259.08, 1058.43

Fluke, Liver / Sheep Liver Fluke / *Fasciola hepatica*

Infecting humans and cattle as well as sheep, the flukes are transmitted if contaminated vegetation is eaten. They lodge in the liver bile ducts, thickening the duct lining and inflaming the surrounding liver tissue. They are found in the US, UK, Europe, Middle East, Asia, Africa, and Australia.

14, 275, 826, 830, 834

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

Adult fluke:

KHz set: 421350 (lowest), 425K (optimal), and 427300 (highest)

Hz set: 1044.42 (lowest), 1053.47 (optimal), and 1059.17 (highest)

Larval stage:

KHz set: 423800 (lowest), 427K (optimal), and 430600 (highest)

Hz set: 1050.50 (lowest), 1058.43 (optimal), and 1067.35 (highest)

Fluke eggs:

KHz set: 422K (lowest), 425K (optimal), and 427600 (highest)

Hz set: 1046.03 (lowest), 1053.47 (optimal), and 1059.91 (highest)

Also from Clark: 21159.50 (eggs) and 21259.08 (larvae)

Fluke, Liver (unspecified)

Worms appearing in the liver and other places.

First try: 143, 238, 275, 676, 763, 6641, 6672

Also try: 15, 55, 524, 854, 2K

Hangover

Acute toxicity in the blood and lymph alcohol ingestion. Symptoms include head and body aches, gastrointestinal disturbances, blunted motor responses, and malaise. Also see **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**, “Alcoholism.”

146, 522, 10K, 40K

Hepatitis, all types

Highly contagious disease causes liver inflammation, nausea, disturbed appetite, vomiting, joint pain, fever, and jaundice. Skin and eyes may be yellow as large amounts of bile are released into the blood. This condition is often caused or exacerbated by poisoning from drugs or other chemicals. The virus is carried in bodily fluids: blood, saliva, and also semen—which is why hepatitis is sometimes considered a sexually transmitted disease (STD).

Hepatitis, General

224, 317, 552, 932, 953 (all from Dr. Garvey), 28, 329, 470.6, 477, 483.3, 660 + 690 + 727, 802 + 1550, 880, 922, 941.4, 966.6, 1351, 1882.7, 1933.2

Also try frequencies for “*Schistosoma mansoni*,” which can cause symptoms similar to hepatitis: 329, 9889

Hepatitis A

321, 3220 (both from Garvey), 333 + 523 + 768 + 786, 346, 414, 423, 487, 558, 578, 693, 717, 878

Hepatitis B

334, 433, 477, 574, 752, 767, 779, 869, 876

Hepatitis C

Set 1: 20, 28, 72, 95, 125, 146, 166, 250, 444, 600, 650, 665, 802, 880, 1500, 1550, 1600, 1865, 2489, 3176, 3220, 5K, 10K

Set 2: 166, 224, 317, 329, 482.6, 528, 633, 929, 930, 931, 932, 933, 965.1, 1371, 1930.3, 2189

Hepatitis, More

If the above frequencies do not work: 166 (from Dr. Garvey), 1.2 + 250, 20, 95, 125, 146, 160 to 284, 321, 433, 444 + 1865, 447, 458, 534, 600 + 625 + 650, 768, 777, 788, 1041, 1600, 2189, 2489, 3176, 3220, 9670

Liver–Gallbladder Cleanse

Introduction

Physiology. The liver contains many biliary tubules that deliver bile to the gallbladder through the bile duct. The attached gallbladder stores bile because the liver cannot make large amounts at one time. Fats trigger the gallbladder to empty bile into the small and large intestines. In many adults and even children, the biliary tubules are loaded with gallstones that cannot be seen on gallbladder X-rays because most stones are too small and don't contain calcium (visible to X-rays). Also, the worst stones tend to be in the liver. As stones multiply and enlarge, four problems occur: The pressure on the liver prevents it from producing enough bile and the bile duct becomes more blocked. The liver cannot detoxify poisons such as solvents and parasites. Cholesterol levels may rise due to impaired liver function. And the porous gallstones can pick up bacteria, viruses and parasites that pass through the liver, which causes infection.

The Stones. There are many types of gallstones, most of which contain cholesterol crystals. The crystals can be black, red, white, tan, or bile-coated green. The late Dr. Hulda Clark observed many stones imbedded with what might be the remains of flukes. Other scientists have found clumps of bacteria at the center of each stone—suggesting that the body forms stones for protection, similar to how an oyster creates a pearl around an irritating grain of sand.

Some wonder if the residue from these cleanses is food rather than stones. Clark pointed out that food residue sinks, but gallstones float because they contain cholesterol. The concentric circles and crystals of the eliminated cholesterol exactly match textbook pictures of gallstones. Some soft, waxy, floating cholesterol crystals do not form into round stones, but they *would* eventually harden if allowed to sit in the liver and bile duct.

Effectiveness of This Cleanse. Establishment medicine claims that gallstones are rare; that they aren't linked to allergies, digestive upset or impaired liver function; and that removing the gallbladder eliminates the problem. These beliefs conflict with how the body actually works. Dr. Clark observed that even with the gallbladder removed, people eliminate green, bile-covered stones with this cleanse. This cleanse painlessly removes most stones, gravel, crystals and other debris from the liver, gallbladder and bile ducts, which helps the liver more efficiently purify the blood.

Each liver cleanse is sometimes observed to “cure” a different set of allergies, suggesting that the liver could be compartmentalized, with different duties allocated to different parts. This cleanse alleviates pain in the upper back, shoulders, and upper arms. It also tonifies the intestines. The colon may be sluggish due to inadequate bile secretion. If stones are blocking the bile ducts, there won't be sufficient bile; so eliminating stones could help restore colon function. Many practitioners observe improved digestion in people who do this cleanse. Also, after a series of cleanses, it's not uncommon for people originally scheduled for gallbladder surgery to not need it!

People who do this cleanse every month report passing fewer and fewer stones with each successive cleanse. Dr. Clark stated that a person may have to pass up to 2000 stones over a year-long period before the liver is clean enough to eliminate allergies and body pain. Symptoms, which may diminish or disappear, might return as stones from the rear of the liver travel forward. However, the reappearance of symptoms is temporary.

Preliminary Preparation (optional). (a) Before you do this liver-gallbladder protocol, consider an herbal kidney cleanse. The kidneys filter substances that don't belong in the bloodstream or aren't needed. (b) For two days prior to the cleanse, and/or on Day 1 of the cleanse at 3:00 p.m., you may give yourself coffee enemas (see Chapter 3) to clean the colon and stimulate liver function. (c) Some sources suggest drinking one quart a day of unfiltered apple juice for three days before the cleanse, because the malic acid in apples helps soften and flatten the stones that will be released. I think this is a very bad idea, because apples are abundant in fructose—the very sugar that the liver has problems handling (see Chapter 3)! It's wiser to take malic acid capsule supplements. *Caution: If you are ill, wait until you feel better before doing this cleanse; otherwise, it may send you straight to bed!*

Cleanse Days. Choose 36 consecutive hours when you have access to a toilet and can rest. Don't take nutritional supplements not specified here, or medications (unless your doctor tells you to). Otherwise, success could be hindered. On Day #1, don't eat fat. Eat fruit, vegetables, non-glutinous grains, protein powders, or (in the early morning only) steamed chicken or white fish. This allows bile to accumulate and build pressure in the liver, which pushes out stones.

If Problems Develop. Most people find this cleanse to be safe. However, if you feel pain from your torso to your throat, there might be a gallstone stuck in a bile duct. (Dr. Clark said that the appearance of clay-colored stool also indicates bile duct blockage.) To relax the spasms of the bile duct, take a heaping tablespoon of Epsom salts in $\frac{3}{4}$ cup of water on an empty stomach. The bile duct should relax within 20 minutes. If it does not relax and you still feel symptoms, immediately consult a holistic professional familiar with liver cleanses. Spasms may indicate the presence of parasites.

This cleanse is best done once every four weeks. The time between cleanses allows the existing stones to move forward in the liver, which enables them to be expelled during the next cleanse. You'll know you are finished when no more stones pass. If you are ill, weak, pregnant, nursing, or elderly, please seek holistic medical supervision!

Ingredients

- ◆ 4 TBS Epsom salts (magnesium sulfate). The label will say for both internal and external use. The magnesium opens the bile ducts, which allows the stones to pass easily. This ingredient is critical to your success!
- ◆ 24 ounces (3 cups) of filtered water.
- ◆ 1/2 (or 1/3) cup olive oil (light or non-virgin oil, which is easier to swallow).
- ◆ 1/2 (or 1/3) cup citrus juice, made from *fresh* grapefruit (preferably pink or red), fresh lemons, or a combination of both. Do not use concentrate or store-bought juice; this won't blend well with the oil you'll be drinking.
- ◆ *Optional:* (a) Ornithine (an amino acid), to help you sleep—4 capsules if you normally don't have problems sleeping, and 8 capsules if you do. (b) Starting three days before the flush, take 600 mg of malic acid 3 times a day for every 100 pounds of body weight. (c) 1 TBS of Vitamin C powder to nullify the taste of Epsom salts.

Equipment

- ◆ One 1-quart jar with a plastic (non-metal) lid for the Epsom salts mixture.
- ◆ One pint jar with a plastic (non-metal) lid for the citrus juice-olive oil mixture.
- ◆ A citrus juicer. This is mandatory, because you'll need fresh squeezed citrus juice.

Procedure – Day 1

You will need to eat foods that digest relatively quickly so your stomach can empty by evening. If you're able to fast on liquids, you may drink the fresh squeezed juice of 12 grapefruits until 5:00 p.m. If you're eating solid food, finish eating by noon (but you can drink a small amount of grapefruit juice until 5:00 p.m.). Choose light starches with no added fat, such as cooked oatmeal or baked potato (no milk, butter or sour cream), steamed vegetables, and/or green salads. Avoiding fats allows the fat-digesting bile to build up in the liver and gallbladder. If you are carbohydrate intolerant, eat low-carb, no-fat rice or pea protein powder in water. Some people manage with steamed codfish or flounder (without skin) or steamed chicken breast (white meat only, no skin) for the morning meal.

12:00 PM: Stop eating solid food, or you may feel uncomfortable later and the cleanse won't work as well. Mix 4 TBS of Epsom salts and (optional) 1 TBS of Vitamin C powder in 3 cups of cold water in the 1-quart jar. If you don't use Vitamin C powder, you may add a very small amount of citrus juice to the Epsom salt mixture just before drinking it.

6:00 PM: Drink 3/4 cup of the Epsom salts. This may cause diarrhea. Don't be alarmed; Epsom salts have a laxative effect.

8:00 PM: Drink 3/4 cup of the Epsom salts. If you didn't have diarrhea earlier, you may experience it now.

The timing of the main portion of the cleanse is relatively critical in achieving success. Try not to be more than 10 minutes early or late for anything that follows next. Be ready to go to bed immediately after the 10 p.m. drink.

9:45 PM: Into the second jar, pour all of the olive oil, along with the grapefruit and/or lemon juice. Close the lid and shake the jar hard until the contents are thoroughly blended.

10:00 PM: Drink the olive oil and citrus juice standing up. Take the optional ornithine with the first sips. Drink it all immediately; but if you're weak or elderly, you may drink it over a period of 5 minutes. *Lie down* on your right side for at least 30 minutes, with your knees up to your chest in a fetal position. The sooner you lie down, the more stones you'll eliminate. The oil you drank—much more than the body normally processes at one time—will cause the liver and gallbladder to spasm and dump all available bile, along with stones, gravel and crystals. You may feel stones traveling along the bile ducts. After 30 minutes, you may lie on your back. If you can't sleep, try to remain in bed for another 20 minutes. After that, if you feel nauseated, take 1/2 (or 1) teaspoon of activated charcoal with 1 (or 2) glasses of water.

Chinese medicine reminds us that the liver is sensitive to feelings of resentment, vindictiveness, and hate. The expression "venting bile" refers to someone who is very angry. So send positive, loving thoughts to your liver.

Procedure – Day 2

Next morning (6:00 a.m. or later): Take your third dose of the Epsom salt solution. If you're nauseated, take 1/2 (or 1) teaspoon of activated charcoal with 1 (or 2) glasses of water, wait an hour, and then drink the Epsom salts. The Epsom salts act as a laxative, and will induce many loose bowel movements later.

2 hours later: Take your fourth (and last) 3/4 cup of Epsom salts. Go back to bed if you want.

After 2 more hours: You may get up and eat. Some people prefer something light, while others want to eat normally immediately. Expect to have diarrhea on this second day. This is normal, due to the effect of the Epsom salts.

Icterus, Hemolytic

Chronic jaundice from a malfunctioning liver. Its bile pigment, distributed to the blood, turns the skin yellow, often accompanied by anemia (deficiency or malfunction of red blood cells). This condition can have many causes, from organ disturbances to poor nutrition. See a health professional. If your liver malfunctions, your system can be poisoned quickly. 243, 768

Jaundice / Bilirubinemia

The bilirubin, orange-yellow bile pigment resulting from the normal breakdown of red blood cells, is not eliminated by the liver and instead circulates back into the blood, turning the skin yellow. Also see **LIVER AND GALLBLADDER, Gallbladder; BACTERIA, "Leptospira / Leptospirosis";** and "Fluke" entries under **PARASITES, PROTOZOA AND WORMS.**

First try: 1.2 + 250, 649, 717, 726, 731, 734, 863, 9305

Also try: 10, 20, 72, 95, 125, 146, 444 + 1865, 600 + 625 + 650, 802 + 1550, 880, 1500, 1600

Lipoma

Fatty tumor, usually benign and in clusters, just under the skin. Liver dysfunction and faulty fat metabolism may be involved. Eliminate dairy. Consider bile supplementation. Massage lipoma with castor oil and/or rub with rosemary essential oil.

Also see **CANCER, "Liver Cancer"** in case the tumors become malignant, along with other entries in this section.

First try: Sweep 7–10 Hz for 1 hour.

Then try: 47, 440, 606, 709 (each for 5 minutes). Also sweep 2K–2200; or do 2K–2200 in increments of 5 Hz, staying on each number for 30 seconds to 1 minute

Liver Cancer

See under **CANCER.**

Liver Function, to Support and Balance

Frequencies alone won't fix this. See Insert on pages 758–759, "Liver–Gallbladder Cleanse."

33.13, 537, 751, 802 + 1550, 1552

Lymphoma in Liver

See "Lymphoma, Non-Hodgkin's" under **CANCER.**

Necrosis of Liver

Death of some areas of tissue, surrounded by healthy parts. Also see **BACTERIA, "Listeria monocytogenes / Listeriosis"** and the various "*Schistosoma*" entries under **PARASITES, PROTOZOA AND WORMS.**

33, 33.13, 802 + 1550, 1552

Stones in Liver

Hardened mineral material that can cause pain and inflammation. To eliminate them, see "Gallstones" under **LIVER AND GALLBLADDER, Gallbladder.**

21

Gallbladder

Not all mammals have a gallbladder. In humans, this organ is pear-shaped, about 2¾ to just under 4 inches in length (7 to 10 centimeters), and dark green due to its contents (bile). The gallbladder concentrates and stores less than ¼ cup (50 milliliters) of bile. The bile, made by the liver to digest fats, is released into the duodenum portion of the small intestine by the gallbladder when food enters.

Sometimes the bile becomes attached to mineral salts and is solidified into stones, which obstruct the bile ducts and cause pain. When the gallbladder becomes clogged with stones, many people have it removed. But the liver cannot produce enough bile for each fatty meal, so the gallbladder's function of storing bile is very important. A series of liver-gallbladder flushes can eliminate the stones. Also see **LIVER AND GALLBLADDER, Liver.**

Cholecystitis

Excruciatingly painful gallstone attack from the clogging of the bile ducts. Also see "Gallstones" in this section.

481, 743, 865, 928

Cholecystitis, chronic

Long-term inflammation of the gallbladder.

481, 743, 865, 928 (all from Dr. John Garvey), 432, 801, 1551

Dystonia with Osteitis

Gallbladder dysfunction with bone inflammation.

2.65, 20, 724, 736, 743, 770, 787, 660 + 690 + 727, 880, 3K

Gallstones

Usually formed by an accretion of cholesterol and bile salts in the gallbladder or bile ducts. The stones can number from one to a few thousand, and be as small as a grain of sand or as large as a golf ball. Up to 25% of all people may have gallstones. Formation of gallstones appears to be based on body chemistry, weight, diet, how often and how well the gallbladder contracts, and how completely and frequently the gallbladder empties.

Symptoms include abdominal pain (as the gallbladder contracts and stones pass through the bile duct), pain radiating up the back, digestive upset, and burning in the chest. Conventional medicine offers surgery at the point of life-threatening blockage, but Chinese Gold Coin Grass

(*Jin Qian Cao*), taken over time, will shrink the stones so they can be expelled. Make sure to do the Liver-Gallbladder cleanse (see pages 758–759); it will really help you. Specific homeopathic remedies, and fresh vegetable juices of greens and a little beet, may also help.

2.65, 30.5, 20, 444 + 1865, 660 + 690 + 727, 787, 800, 802 + 1550 880, 1552, 3K, 6K, 10K, 40K

End of Liver and Gallbladder section.

LOCKJAW

See “*Clostridium tetani* / Tetanus / Lockjaw” under **BACTERIA**.

LOCOMOTOR DYSFUNCTION / MOVEMENT DIFFICULTY

See “Ataxia” and “Ataxia, Spastic” under **MUSCLES**.

LOU GEHRIG’S DISEASE

See “Amyotrophic Lateral Sclerosis (ALS)” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

LUMBAGO

See under **MUSCLES**.

LUPUS ERYTHEMATOSUS

Autoimmune disease similar to rheumatoid arthritis. Symptoms include severe joint swelling, muscle pain, fatigue, lesions on skin and mucous membranes, destruction of facial cartilage, nausea and vomiting, fever, edema, scaly rashes that won’t heal, sun sensitivity, oral or nasal ulcers, inflammation of the lining of the lungs or heart, excess protein in the urine, certain types of seizures, abnormal changes in the blood, and often kidney failure. Environmental triggers include ultraviolet light, infections, medications, diet, and stress.

Nine out of ten people with Lupus are women. This is one of the most difficult conditions for mainstream medicine to treat, and can be fatal. Consult an experienced holistic health practitioner. See numerous entries under **PARASITES, PROTOZOA AND WORMS**; and try the general set for **CANCER**. See **BACTERIA**, “*Mycoplasma*, many types,” as *Mycoplasma* infection is often the beginning of autoimmune conditions. And see **BACTERIA**, “*Streptococcus* / *Strep*,” which can linger for years and cause autoimmune conditions as well.

From Dr. John Garvey (for 8 minutes apiece): 243, 352, 386, 921, 942, 993, 1333, 1464

Also try: 244, 442, 633 (for 5 minutes), 660 + 690 + 727, 702, 776, 787, 802 (for 8 minutes) + 1550, 880, 1850, 2008 (for 8 minutes), 2125 (for 4 minutes), 2489, 3612 (for 4 minutes), 40K

Also try: 205, 771, 842, 847, 921, 7865

Then try: 304, 481, 664, 678, 784, 1552, 2180, 2128

LYME / LYME DISEASE

See “*Borrelia*, all types / Borreliosis / Lyme Disease” under **BACTERIA**.

LYMPH CONDITIONS, MANY

See under **LYMPHATIC SYSTEM**.

LYMPHATIC LEUKEMIA

See “Leukemia, Lymphatic” under **CANCER**.

LYMPHATIC SYSTEM

The lymphatic system consists of a long series of channels called lymph vessels that run parallel to the blood vessels; lymph nodes (confusingly called lymph “glands”); and lymphocytes, a type of white blood cell that contributes to a strong immune response. The tonsils, adenoids, and spleen are also part of the lymphatic system. The tonsils consist of lymph tissue and are located in the throat. The adenoids (sometimes called the pharyngeal tonsils) consist of lymph tissue as well. They are located at the very back of the nose. The spleen—a fist-sized organ above the stomach, under the ribs on the left side—does not contain lymph tissue. However, it plays a vital role in reducing infection by purifying the blood. Foreign substances are filtered out from red blood cells. Then the rejuvenated red blood cells are stored in the spleen until the body requires extra blood.

Lymphatic fluid (or simply, “lymph”) begins as blood plasma (blood without red blood cells). The lymph fluid seeps out from small blood vessels into the spaces surrounding each cell. After absorbing waste products from cell metabolism, the fluid diffuses into the tiny porous lymph capillaries, where the lymphocytes inside the lymph capillaries clean and filter it, neutralize toxins, and destroy bacteria and viruses. Then the lymph fluid returns to the circulatory system.

Lymph fluid is clear but dense. The fluid is circulated throughout the body similar to the way the cardiovascular system circulates blood. However, because the lymphatic channels don’t have the equivalent of a heart to pump the fluid, exercise or massage are required to move the viscous lymph through the channels. Jumping on a rebounder (miniature trampoline) is a low-impact, very effective way to enhance lymphatic circulation (see Chapter 3, **Exercise**).

The 500 to 600 lymph nodes—abundant in the groin, underarms, neck, chest and abdomen—are constructed from connective tissue in a honeycomb shape. The ones in the neck that swell during illness are often called “swollen glands.” When the body is fighting an infection, lymphocytes multiply rapidly, making the lymph nodes swell. The two types of lymphocytes (which have different jobs) are T cells (so called because they mature in the thymus) and B cells (so called because they mature in the bone marrow).

Frequency and other electromedical devices that contact the body may move lymph better than freestanding plasma units because the dense tissue needs mechanical stimulation to promote flow. Also see more frequencies under **RESPIRATORY TRACT, Throat and Lymph Nodes**.

Always use 40K for tissue regeneration.

Adenoids, Swollen

Swollen lymphatic tissue located primarily in the throat, but sometimes in other places as well.

14, 20, 333 + 523 + 768 + 786, 428, 444 + 1865, 590, 660 + 690 + 727, 776, 780, 787, 802 + 1550, 807, 810, 880, 1570, 2K, 2170, 2720, 40K

Fluke, Lymph

Worm appearing in the lymph vessels.

157, 10050

Glanders

Caused by the bacillus *Pseudomonas mallei*, Glanders primarily involves the mucous membranes of the mouth and respiratory system, and occasionally the lymph nodes (where it is called Farcy). Mostly horses, mules and donkeys are affected, but occasionally the microbe is transmitted to humans, goats, sheep, cats, and dogs. Glanders is not common in the United States or Europe, but it still appears in Asia, Africa, and South America.

First try: 501, 660 + 690 + 727, 687, 743, 774, 857, 875, 1273

Also try: 20, 787, 880

Lymph Plaque

Buildup of solidified material in the lymph channels.

346, 596

Lymph System Circulation / Drainage, to Increase

Because lymph tissue is so dense, contact devices may work better than freestanding radiant plasma devices. Also see applicable frequencies under **CHEMICAL SENSITIVITY / POISONING**. Sauna therapy helps eliminate waste from the system. Make sure to replace missing electrolytes.

1.5, 3.6, 6.3 + 148, 146, 8, 10, 10.36, 15, 15.05, 15.33, 20, 20.5, 66, 146, 324, 428, 440, 444 + 1865, 465, 522, 528, 660 + 690 + 727, 676, 743, 787, 880, 1K, 2112, 3176, 5K, 10K, 40K (for as long as desired)

Short Set, Lymphatic Drainage

522, 146

Feeling overwhelmed or stuck?

First . . . read the end of Chapter 4,

*"A Short Course on
How to Give Yourself a Rife Session."*

This provides an excellent overview of
how to prioritize what you need.

Then . . . read the beginning of this chapter.

Lymphangitis

Inflammation of lymph vessels in humans and horses. Symptoms may include swelling, fatigue, aching head and muscles, fever, and chills. Many pathogens can be involved, such as the following. See **BACTERIA**, "*Streptococcus* / *Strep*," the many entries under **CANDIDA**, **FUNGI, MOLDS AND YEASTS**, and "*Herpes Virus Type 3* / *Herpes zoster* / *Chicken Pox* / *Varicella* / *Shingles*" under **VIRUSES**, **Herpes, all types**. Also see **CANCER** because lymph inflammation occasionally may develop into cancer. 574, 778, 1120, 1078, 3176

Lymphatic Leukemia

See "Leukemia, Lymphatic" under **CANCER**.

Lymphedema / Edema / Dropsy / Water Retention

Abnormal fluid retention in the arms, legs, face, neck or torso, caused by a sluggish or malfunctioning lymph system. Symptoms include warmth and redness of skin, decreased limb strength, restricted movement, and swelling in tissues. Clothing, shoes, and jewelry may be tight. The lymphedema may have no obvious cause, or it may develop after surgery or other trauma. If untreated, this condition could lead to cellulitis.

Cells in the body that are deprived of oxygen or nutrients, or are exposed to poison or physical trauma, lose potassium, absorb sodium and chloride, and expand from excess water. This excess water in the tissues causes the body to bloat and swell. Water retention is associated with many factors, including mineral (electrolyte) imbalance, the acidification of bodily tissues, and inadequate protein intake. Successful management of this condition depends on determining the cause of the water retention.

This edema is from a different cause than cardiac edema, and requires different frequencies. However, in case this condition is actually cardiac edema, please see the warning under **HEART, BLOOD AND CIRCULATION** before using this technology. (People who are wearing pacemakers, and those without pacemakers but who still have a heart condition, must limit their use of this technology.) Also see other frequencies in this **LYMPHATIC SYSTEM** section, including "Lymph System Circulation / Drainage, to Increase"; various kidney frequencies under **URINARY TRACT, Kidneys**; and **CANDIDA, FUNGI, MOLDS AND YEASTS**, "*Candida albicans*."

From Jimmie Holman: 25308, 26196, 27084, 27972, 28860, 29748, 30636, 31524, 32412, 33300, 34188, 35076, 36852, 37740, 38106, 38628, 40404, 41292, 43068, 43956, 44844, 45732, 47508, 48396, 49284, 50172, 51060, 51948, 52836, 53724, 55000, 55500, 58164

Also try: 6.3 + 148, 20, 24.3, 146, 440, 444 + 1865, 465, 522, 660 + 690 + 727, 787, 880, 3K, 5K, 10K, 40K (for as long as desired)

Lymphocytes, to Stimulate Production of

2791, 2855, 2867, 2929, 3347, 3448, 4014, 5611

Lymphogranuloma, Malignant

See “Hodgkin’s Disease / Lymphogranuloma, Malignant” under **CANCER**.

Spleen, Enlarged, and other Conditions

The spleen, a bean-shaped organ positioned beneath the left breast at an angle, contains the largest mass of lymph tissue in the body, covered by connective and smooth muscle tissue. It is joined to the rest of the lymphatic system by lymph vessels. Unlike the lymph vessels, the spleen does not carry lymphatic fluid; and unlike the lymph nodes, the spleen does not filter or clean lymph. Instead, it produces what eventually turn into antibody-producing blood plasma cells. Antibodies, a basic component of the body’s immune line of defense, are the biochemical agents against specific microbial or foreign antagonists in the body. The spleen also breaks down bacteria and worn-out or damaged blood cells, and creates new blood cells.

20, 27.44, 35, 465, 660 + 690 + 727, 787, 802 + 1550, 880, 1800, 2170, 2720, 3176, 10K, 40K

Thymus Conditions

The thymus gland contains lymphatic tissue and belongs to the lymphatic system. It plays a major role in immune function by producing hormones that help with immunity and by also producing T cells (T is for “thymus”) that destroy pathogens. The thymus is affected by the emotions. Medical authorities consider it normal that the gland atrophies as we age, but proper nutrition and caring relationships will help ensure that the immune function remains vital. Light rhythmic thumping on the chest can stimulate the thymus to work more efficiently. See Chapter 3, **Exercise**, for more details on the lymphatic system.

Thymus, to Balance and Normalize

20, 537

Thymus Gland Fever

20, 10K, 40K

End of Lymphatic System section.

LYMPHOGRANULOMA, MALIGNANT

See “Hodgkin’s Disease / Lymphogranuloma, Malignant” under **CANCER**.

LYMPHOGRANULOMA VENEREUM (LGV)

See under **MEN**, *Penis* or **WOMEN**, *Vagina, Labia and Clitoris*.

LYMPHOMA, ALL TYPES

See under **CANCER**.

**Don’t forget to use 40K
to restore cell vitality.
Run it for as long as you want.**

–M–**MAD COW DISEASE / BOVINE SPONGIFORM ENCEPHALOPATHY (BSE)**

See **PRIONS / AMYLOIDOSIS**.

MACULAR DEGENERATION

See under **EYES**.

MALABSORPTION SYNDROME

See under **GASTROINTESTINAL TRACT**, *Systemic Conditions*.

MALARIA

See **PARASITES, PROTOZOA AND WORMS**, “*Plasmodium falciparum* / Malaria Parasite.”

MALASSEZIA FURFUR

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

MANGE / FOLLICULAR MANGE / SCABIES

See under **SKIN**.

MANIC DEPRESSION

See “Bipolar Disorder / Manic Depression” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

MARCONS / MULTIPLE ANTIBIOTIC RESISTANT COAGULASE NEGATIVE STAPHYLOCOCCI

See under **BACTERIA**.

MASTITIS

See “Breast Inflammation / Mastitis” under **WOMEN**, *Breasts*.

MASTOIDITIS

See under **BONE AND SKELETON**.

MEASLES

See “*Rubeola* / Measles” under **VIRUSES**.

MEASLES, GERMAN

See “*Rubella* / German Measles / 3-Day Measles” under **VIRUSES**.

MELANOMA METASTASIS

See under **CANCER**.

MEMORY, TO IMPROVE

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

MEN

Male and female genitals evolve from the same embryological tissue. This makes them *homologues*: they correspond in structure, character, and usually function. The following body parts are homologues: the male penile glans and female clitoral glans; the male corpora cavernosa and female clitoris; the male corpus spongiosum and female vestibular bulbs beneath the labia minora; the male scrotum and female labia minora and labia majora; and the male foreskin and female clitoral hood.

Even though male and female plumbing are different, and men often do not experience symptoms while women do, both sexes are susceptible to the same sexually related diseases. The asymptomatic man can carry the infection and pass it to his female partner. Therefore, it's very important (and courteous) to get a thorough checkup if you even suspect that you've been infected.

Penis

The human penis is made up of three columns of erectile tissue, the end of which forms a cone-shaped head or glans. The foreskin, on the head, consists of a loose fold of skin. The human penis differs from those of some other mammals. It contains no bone, but relies on engorgement with blood to reach its erect state. Erection in the male can occur in both sexual and non-sexual situations. The arteries supplying blood to the penis dilate, allowing more blood to fill the three spongy erectile tissue chambers in the penis, which then lengthens and stiffens. The average human penis is 5 inches (12.7 cm) in length when fully engorged with blood during arousal. Generally, size does not correspond strongly to reproductive ability.

Circumcision, the surgical removal of the foreskin, is common in Jews and Muslims, but under 40% of boys worldwide are cut. Most of Asia, Africa, Europe, and South America avoid it. This surgery is cited as religiously mandated, medically necessary (presumably for health reasons), or culturally defensible ("I don't want my boy to feel strange because he's not like the other circumcised males"). However, there's ample scientific evidence (not to mention common sense) that circumcision is unnecessary and harmful, and interferes with men's sexual pleasure. Even women report experiencing more pleasure during intercourse with intact than circumcised men. MRI data from Dr. Paul Tinari shows that circumcision changes the amygdala, the frontal lobe and the temporal lobe of the brain, most strongly affecting reasoning, perception, and emotions. His research team was threatened with legal action and a loss of their jobs if they published the study.²⁷

This practice is a less overtly extreme version of female genital mutilation (clitorectomy). Although a man may not consciously remember the process (which is almost always done without anesthesia), pain and fear remain imprinted in the body's tissues unless they're released. If you're uncircumcised and have concerns about sanitation, see "Smegma" in this section.

Herpes

See **VIRUSES**, *Herpes*, all types.

Jock Itch

Peeling skin, irritation and itching in the groin and genitals caused by *Epidermophyton floccosum*, a fungus that attacks skin, nails, and also the feet (where it's called athlete's foot). The fungi that attack the skin can be interchangeable and don't confine themselves to one area. Also see, under **CANDIDA, FUNGI, MOLDS AND YEASTS**, the various *Trichophyton*, *Microsporon* and *Microsporum* entries, "*Candida albicans*," and "General Fungus / Molds / Yeasts."

644, 766 (both from Dr. John Garvey), 856 (from Dr. Richard Loyd), 20, 345, 465, 634, 660 + 690 + 727, 784, 802 + 1550, 880

Lymphogranuloma venereum (LGV)

A venereal disease caused by *Chlamydia trachomatis*. Symptoms include inflammation, and enlargement and ulceration of the lymph glands in the groin area. From Dr. John Garvey: 430, 620, 624, 840, 2213 Also try: 430, 555.7, 866, 1111.4, 2222.8

If that doesn't work, try: 4710.5, 479, 620, 940.1, 942.9, 1880.1, 1885.9, 3760.3, 3771.7, 7520.5, 7543.4 (for *Chlamydia pneumoniae*, a different strain)

Seminal Vesiculitis

Inflammation, blockage, and often infection of the seminal vesicles (the sacs that temporarily store semen before it's emitted through the penis), caused by the bacterium *Micrococcus tetragenus*.

393, 433, 2712

Sex Gland Fever

20, 10K, 40K

Smegma

An unhealthy, smelly buildup of the fatty secretion by the skin between the glans penis and the foreskin in the male, or around the clitoris and labia minora in the female. Keep the area clean, using very mild and simple soaps, or if necessary, (for men only) a 3% solution of food grade hydrogen peroxide.

180 (from Dr. John Garvey), 153, 638

Syphilis

Highly infectious disease that can cause lesions in the sexual organs, fever, headache, swollen glands, rash on the hands and feet, and ultimately blindness, heart disease, and insanity if not treated. The pathogen enters the bloodstream during sex and can go anywhere in the body. Within 10 to 90 days after infection, a sore may appear on or around the

sex organs, rectum, or mouth. Syphilis can exist on a subclinical level. If untreated in pregnant women, it can cause birth defects and even death to the baby. Women with chronic vaginal discharge, or women and men with sexual dysfunctions, should try syphilis frequencies if other numbers aren't working. From Dr. Marty Monahan: 900, 789, 650, 625, 660, 511, 641, 633, 640, 827, 885

Also try: 600, 690, 727, 20, 120, 177, 658, 700, 902
From Royal Rife, possibly used on his #4 machine: 789K

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 346850 (lowest), 347K (optimal), and 347400 (highest)

Hz set: 859.76 (lowest), 860.13 (optimal), and 861.12 (highest)

Also from Clark: 17276.11

Trichomonas vaginalis

An aerobic protozoan parasite usually found in the vagina, causing itching, burning, and foul-smelling discharge. Although a woman is generally more symptomatic than a man from this infection, the man should be treated because the parasite lodges in his genital-urinary tract and can be repeatedly passed between sexual partners.

From Dr. Marty Monahan: 155, 447, 448, 450, 962
Also try: 610 + 692 + 980

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 378K (lowest), 381K (optimal), and 383600 (highest)

Hz set: 936.97 (lowest), 944.40 (optimal), and 950.85 (highest)

Also from Clark: 18968.87

Wart, Venereal / Condyloma

Benign but very painful, sometimes bleeding tumors with a branch or stalk and occasionally white patches, caused by the *Papilloma* virus. Men do not feel the negative effects of venereal warts as strongly as women do. In women, if this condition is not eliminated it can lead to cervical cancer. Also see frequencies for "Wart, Plantar," under **SKIN**.

First try: 110, 767 (both from Dr. John Garvey), 45, 265, 404, 446, 466, 489, 660 + 690 + 727, 874, 907, 1011, 1051, 2127.5, 5657, 9258, 9609

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz sets:

402850 (lowest), 407K (optimal), and 410700 (highest)

404050 (lowest), 404300 (optimal), and 404600 (highest)

Hz sets:

998.57 (lowest), 1008.85 (optimal), and 1018.02 (highest)

1001.54 (lowest), 1002.16 (optimal), and 1002.90 (highest)

If the above frequencies don't help, try these: 173, 466, 495, 644, 767, 787, 797, 877, 907, 915 (for 30 minutes), 918 (for 30 minutes), 953, 1500, 1600, 1800, 2008, 2170, 2720, 2489

Prostate

The prostate is a muscular gland that surrounds a portion of the bladder and urethra (the tube for urinating that leads from the bladder to the outside of the body). The prostate is partly responsible for the secretion of semen, the carrier fluid of sperm. If the prostate enlarges too much—a common occurrence during middle age (one estimate is about half the male population over 60 years of age)—it can crowd the urethra and impede the flow of urine. If urine flow is entirely stopped, it can damage the kidneys.

In addition to using frequencies, consider asking someone you trust to gently knead your prostate. Wearing a latex glove, the person inserts a finger into the rectum. Do not lubricate the latex glove with petroleum jelly. Petroleum jelly is made from crude oil and prevents respiration in any tissue that it touches! Coconut oil is safe and works well.

Prostate Conditions, General

1.1 + 73, 9, 9.19, 9.39, 9.4, 13.73, 20, 72, 95, 125, 408, 465, 660 + 690 + 727, 664, 802 + 1550, 787, 880, 2008, 2050, 2127.5, 2250, 2720, 40K

Prostate Cancer

See under **CANCER**.

Prostate Hyperplasia

Rapidly growing, abnormal increase of cells without the formation of a tumor, but with an increase in size of an organ or body part.

920

Prostate Tumor, Benign / Prostatitis

Benign tumors can become malignant, so also see "Prostate Cancer" under **CANCER**.

20, 60 + 100, 72, 95, 125, 146, 410, 442, 444 + 1865, 465, 522, 660 + 690 + 727, 688, 748, 766, 776, 787, 802 + 1550, 1875, 2008, 2050, 2127.5, 2170, 2250, 2489, 2720, 40K

Sexual Function

The ability to sexually function is more than whether a man can climax (“get it up”) or a woman can climax. It’s also related to one’s ability to show love and respect for others, to receive love, and to freely experience pleasure without guilt or shame.

Impotence, many types

The word “impotence,” like the word “frigidity,” has negative connotations. Socially and psychologically stigmatizing, it does not address the human aspect of sexual dysfunction: feelings of devitalization, powerlessness, and emotional distance—from oneself, others, and Source. To be impotent is to be robbed of one’s life force.

Impotence is generally considered a problem for men and not women, because the masculine identity is most often associated with the “performance” of keeping the penis erect during sexual activity. However, when a woman is unable to climax and enjoy herself sexually, this is as serious a problem as when a man has difficulty. In a sexual union, each person should feel enjoyment, and connect to himself / herself as well as the partner.

Physical components of sexual dysfunction include infection. Pathogens can be passed from one partner to the other even if a male is asymptomatic. The same microorganisms in both men and women can cause symptoms that lead to sexual dysfunction.

Get a thorough checkup. Psychological counseling may be advised, particularly in cases of sexual abuse, rape, and assault. Also see “Gonorrhea” and other entries in this section under **MEN, Urinary**. Finally, see various entries under **LIVER AND GALLBLADDER, Liver** because the liver processes and removes excess hormones. If it’s not operating efficiently, hormones can build up and become unbalanced in the body, which can interfere with sexual function.

1.1 + 73, 9.39, 9.4, 95, 20, 72, 95, 124, 125, 335, 465, 536, 600 + 625 + 650, 622, 660 + 690 + 727, 712, 787, 802 + 1550, 880, 2008, 2127.5, 10K, 40K (for as long as desired)

Infertility

Pollutants, chemicals and environmental toxins (plastics, herbicides, pesticides, drugs) have decreased the sperm count in males of all species and caused birth defects in the young. Less research has been done on the effects of toxins on women, although the drug DES is now banned because of the deforming effects on the developing embryo. Infertility has especially been linked to estrogens that are outgassed in plastics, and which are routinely added to the feed of commercially-raised (non-organic) cattle and poultry. Electropollution also has a huge impact, especially if a cell phone is

kept in a side pocket or one is constantly surrounded by electronics and WiFi. See “Impotence, many types” (above) and “Estrogen Production Levels, to Normalize (for Males and Females)” under **REGENERATION AND HEALING**. Also see “*Ureaplasma urealyticum*” under **BACTERIA**.

Testicles

The testicles (or testes) are the male sex glands. There are two, one resting in each scrotum (sac) hanging below the penis. The testicles secrete hormones including testosterone and androstenedione, which are responsible for the formation of secondary sex characteristics (among them a deepening voice and facial and pubic hair), the production of sperm cells, and metabolic functions unrelated to reproduction. The testicles operate via a complex feedback loop with the other endocrine glands.

Sperm cells are most easily produced in temperatures slightly less than core body temperature (98.6°F or 37°C). When it’s too cool for sperm production, the muscles holding the testicles contract so the testicles are closer to the warm body. When it’s too warm for sperm production, the muscles holding the testicles relax, lowering the testicles away from the warm body.

Epididymitis

Inflammation of the epididymis, the coiled tube at the back of the testicle that stores and carries sperm (which the testes produce). This condition also includes the epididymal ducts. You are strongly advised to use additional frequencies to prevent the infection from spreading to the testicles. Also see “Orchitis” in this section.

20, 660 + 690 + 727, 787, 880, 1500

Hormonal Imbalance

Check for nutritional deficiencies. Also see entries under **LIVER AND GALLBLADDER, Liver** because the liver processes and removes excess hormones. If the organ isn’t working well, hormones can build up and imbalance the body.

50.5, 537

Hydrocele

Excess fluid in a testicle or testicles. If you don’t know the pathogenic cause, see “Epididymitis” in this section. Experiment with more frequencies.

Orchitis

Testicle inflammation due to tuberculosis, mumps, gonorrhea, cancer, or other trauma.

9, 14, 20, 72, 95, 125, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 802 + 1550, 832, 880, 1500, 1600, 1800, 2008, 2127.5, 2170, 2720, 2489, 10K, 40K (run this for as long as you want)

Seminal Vesiculitis

Inflammation, blockage and often infection of the seminal vesicles, usually caused by the bacterium *Micrococcus tetragenus*. The seminal vesicles are sacs that temporarily store semen before it is emitted through the penis.

393, 433, 2712

Testosterone Levels, to Normalize (Men Only)

1444

Testicular Cancer

See under **CANCER**.

Urinary

The urethra, part of the urinary tract closest to the tip of the penis, is a passage for both urine and semen. Symptoms of sexually related diseases will often appear in the urethra where the man would otherwise be asymptomatic. Therefore some conditions are included here; but for a more complete list see urinary tract.

Bladder Infection / Inflammation with possible Urethra involvement

Pain on urination, sometimes with pus in the urine. The urethra—the tube leading from the bladder to the outside of the body—is often infected along with the bladder. Also see **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*Candida albicans*.”

1.1 + 73, 1.2 + 250, 9.39, 9.4, 10, 20, 40, 72, 95, 125, 246, 360, 444 + 1865, 465, 498, 530, 600 + 625 + 650, 630, 642, 660 + 690 + 727, 724, 726, 771, 776, 787, 802 + 1550, 832, 880, 1500, 1600, 1800, 2045, 2050 (or 2045 to 2050 for 20 minutes), 2127.5, 2170, 2250, 2720, 10K, 40K

Chlamydia pneumoniae

A form of *Chlamydia*—see below. Run each frequency for 5 minutes.

Program 1: If your unit can't do decimals, round up or down to the nearest number. 4710.5, 470 to 472, 479, 620, 940.1, 942.9, 1880.1, 1885.9, 3760.3, 3771.7, 7520.5, 7543.4

Program 2: 471, 942, 1886, 3772, 7543

Chlamydia trachomatis

A bacterium involved in a sexually transmitted infection that can cause conjunctivitis (inflammation of the eye), urethritis (inflammation of the urethra or urinary tube), and proctitis (inflammation of rectum and anus), as well as lymphogranuloma venereum (venereal disease featuring inflammation and ulceration of the lymph glands). If not treated, an infection may result in miscarriage and infertility in women. It can be passed to infants in the birth canal, causing eye infections and pneumonia. This

organism may play a developmental role in cancer and Multiple Sclerosis, so see a doctor. Also see “*Chlamydia pneumoniae*” and “Lymphogranuloma venereum (LGV)” under **MEN, Penis**.

From Dr. John Garvey: 430, 620, 624, 840, 2213

Also try: 430, 555.7, 866, 1111.4, 2222.8

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 379700 (lowest), 381K (optimal), and 383950 (highest)

Hz set: 941.18 (lowest), 944.40 (optimal), and 951.72 (highest)

Also from Clark: 18968.87

Gonorrhea

Neisseria gonorrhoeae causes the sexually transmitted gonorrhea. Symptoms include inflammation of the genital mucous membrane and painful urination. There may also be inflammation in the joints and in the mucosa of the eyes, mouth and rectum. Infection can exist on a sub-clinical level. Although men usually experience burning during urination with perhaps drip or discharge from the penis, many women do not feel symptoms. *Neisseria gonorrhoeae* has become resistant to pharmaceutical antibiotics. If untreated, the infection can migrate to other areas and cause other conditions, including arthritis, prostatitis, cystitis, epididymitis, orchitis, pelvic inflammatory disease (PID), and endocarditis. See other categories under **MEN**.

From Royal Rife, possibly used on his #4 machine: 233K

600 + 625 + 650, 660 + 690 + 727, 712

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 333850 (lowest), 334K (optimal), and 336500 (highest)

Hz set: 827.53 (lowest), 827.90 (optimal), and 834.10 (highest)

Also from Clark: 16628.88, 927.90

Urethritis

Inflammation/infection in the urethra, the tube leading from the bladder to the outside of the body, characterized by burning on urination with possible discharge from the penis. Also see **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*Candida albicans*.”

1.2 + 250, 72, 95, 125, 444 + 1865, 465, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 802 + 1550, 832, 880, 1500, 1600, 1800, 2127, 2170, 2720

End of Men section.

To Eliminate All Mites:

Douse clothing, bedding, soft furniture, and carpet with Enviro-One™, a botanical cleaner that's hypoallergenic and safe for the host but destroys bugs by suffocating them (see Appendices A and G).

MEDITERRANEAN SPOTTED FEVER

See "*Rickettsia conorii* / Mediterranean Spotted Fever" under **BACTERIA**.

MÉNIÈRE'S DISEASE

See under **EARS**.

MENINGIOMA

See under **TUMORS, BENIGN**.

MENINGITIS, FROM VARIOUS SOURCES

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS** or "*Meningococcus* Virus / Meningitis" under **VIRUSES**.

MENINGOCOCCUS VIRUS

See under **VIRUSES**.

MENINGOENCEPHALITIS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

MENOPAUSE, VARIOUS ISSUES

See under **WOMEN, Menstruation and Menopause**.

MENSTRUATION, VARIOUS ISSUES

See entries under **WOMEN, Menstruation and Menopause**.

MENTAL HEALTH, MANY ISSUES

See **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

MERCURY, DETOXIFYING FROM

See "Mercury, Aluminum, and Other Contaminants" under **CHEMICAL SENSITIVITY / POISONING**.

METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA)

See under **BACTERIA**, "*Staph*, All Kinds."

MICROSPORON, ALL TYPES

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

MICROSPORON FURFUR

See "*Malassezia furfur* / *Microsporon furfur* / Tinea Versicolor" under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

MICROSPORUM, ALL TYPES

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

MIGRAINE

See under **HEADACHE**.

MITE, BIRD / ORNITHONYSSUS

Attacks domestic birds, fowl, and sometimes humans. After birds abandon their rooftop nest, mites will enter a home.

From Jimmie Holman. Deliver the frequencies in precisely the order written. Note that they might not work on units other than those manufactured by Pulsed Technologies: 64260, 60720, 59784, 55860, 55272, 49500, 45540, 49500, 44100, 43900, 40480, 40194, 38220, 37840, 37444, 35192, 31878

From Dr. Hulda Clark: 877K and 878K (use both); 2173.87 and 2176.34 (use both), for units unable to reach the KHz range

MITE, DUST / DERMATOPHAGOIDES

Mites live in furniture, drapery, pillows, and carpet. They feed on the dead skin cells of humans. Allergies are generally not to the mites themselves but to the large amounts of feces they generate and expel into the air. It is unclear whether these frequencies actually kill dust mites or whether they reduce sensitivity to dust mite fecal matter.

From Dr. Richard Loyd: 476, 1332.03, 1690.5

From Dr. Hulda Clark: 707K or 1752.48 (for units unable to reach the KHz range)

Also try these from Jimmie Holman, although they have been primarily tested on other kinds of mites. The research team of Pulsed Technologies emphasizes that the frequencies be delivered in precisely the order written, and that they might not work on units other than those manufactured by Pulsed Technologies: 64260, 60720, 59784, 55860, 55272, 49500, 45540, 49500, 44100, 43900, 40480, 40194, 38220, 37840, 37444, 35192, 31878

MITE, FOLLICLE / DEMODEX FOLLICULORUM

Mites live in the hair follicles of humans. Although generally harmless, they can cause inflammation in the eyelashes, external ears, and facial skin. Also see **SKIN**, "Mange / Follicular Mange / Scabies."

From Dr. Richard Loyd: 476, 1332.03, 1690.5

From Jimmie Holman. Deliver frequencies in precisely the order written. They might not work on units other than those manufactured by Pulsed Technologies: 64260, 60720, 59784, 55860, 55272, 49500, 45540, 49500, 44100, 43900, 40480, 40194, 38220, 37840, 37444, 35192, 31878

From Dr. Hulda Clark: 682K or 1690.51 (for units unable to reach the KHz range)

MITES / SCABIES

See "Mange / Follicular Mange / Scabies" under **SKIN**.

MITOCHONDRIAL DISEASE

Mitochondria are tiny units that live inside nearly every cell. These powerhouses sustain life and growth, turning nutrients into fuel that provides energy for the entire body. When the mitochondria malfunction, the cells die. The many

debilitating physical, developmental and cognitive disabilities that can occur with this disorder include impaired growth; weakness, pain, and lack of coordination in the muscles; neurological malfunction including seizures, autism and learning disabilities, disorientation and memory loss; vision loss; hearing loss; blood sugar imbalances; gastrointestinal problems such as severe constipation; thyroid, adrenal and other glandular dysfunction; and organ failure.

Modern medicine states that this condition is genetically inherited and has no cure. But there are many environmental factors that can damage the cells' vital fuel-burning units. Heavy metal contamination, exposure to toxic chemicals such as pesticides, and severe infections (accompanied by immune inadequacy) can all play a huge role in weakening the mitochondria. Nutrients are essential: Vitamins B1, B2, B3, B6 and B12; the minerals manganese and magnesium; and the amino acids creatine, L-carnitine and D-ribose. Some people also supplement with malic acid. According to doctors David Brownstein and David Derry, iodine deficiency plays a key role. The mitochondria contain thyroid hormone receptors; and with enough iodine to help create thyroid hormone, there's sufficient increase in cellular energy production.

One very useful (and free!) protocol that you can do yourself is the breathing technique developed by Dutchman Wim Hof (see Insert, page 770, "The Wim Hof Method: Good For What Ails You"). The technique floods the body with oxygen, which energizes the cell membranes and feeds the mitochondria—thus ensuring that the entire body is in a higher-energy, more functional state. This method is being used by people all over the world, who greatly benefit even when devoting just 15 minutes a day to the breathing exercise. If you cannot do the breathing (or in addition to it), consider using medical grade ozone equipment or a hyperbaric oxygen therapy (HBOT) chamber.

There are no frequencies per se for this condition. Try the entries under **REGENERATION AND HEALING**, including 40K.

MOLD

See various entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

MOLE

See under **SKIN**.

MONGOLOIDISM

See "Down's Syndrome" under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

MONILIA

See "*Candida albicans*" under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

MONONUCLEOSIS, INFECTIOUS

See "Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)" under **VIRUSES**.

About Mitochondria

We are not made up, as we had always supposed, of successively enriched packets of our own parts. We are shared, rented, occupied. At the interior of our cells, driving them, providing the oxidative energy that sends us out for the improvement of each shining day, are the mitochondria, and in a strict sense they are not ours. They turn out to be little separate creatures, the colonial posterity of migrant prokaryocytes, probably primitive bacteria that swam into ancestral precursors of our eukaryotic cells and stayed there. Ever since, they have maintained themselves and their ways, replicating in their own fashion, privately, with their own DNA and RNA quite different from ours. They are . . . symbionts. . . . Without them, we would not move a muscle, drum a finger, think a thought. Mitochondria are stable and responsible lodgers, and I choose to trust them.

—Lewis Thomas (1913–1993)

Lives of a Cell: Notes of a Biology Watcher, 1974

MONONUCLEOSIS, OTHER

See "*Herpes Virus Type 5 (Human Herpes Type 5) / Cytomegalovirus (CMV) / Salivary Gland Virus*" under **VIRUSES**.

MORAXELLA CATARRHALIS

See "*Branhamella catarrhalis / Moraxella catarrhalis*" under **BACTERIA**.

MORGELLONS DISEASE

It is unclear when this condition first appeared. British physician Dr. C.E. Kellott may have identified Morgellons in 1935, although one source dates Morgellons to 2002. Kellott described Morgellons as a parasite infection from what appeared to be a filarial nematode, which acted like a silkworm, leaving behind a trail of bizarre fibers. Several years later, researchers Clifford E. Carnicom and Gwen Scott reported seeing bacteria that look like *Chlamydia pneumoniae* throughout the entire body.

Morgellons features unusual tangled black, blue, green, white, or red fibers sprouting from open sores on the skin or residing just under the skin. Some fibers are thicker than a hair, often containing other fibers inside them. Sometimes granules the size of sand grains, black specks, and fuzzballs of 1–3 mm appear in or on the skin. These fibrous structures cause excruciating pain, crusty lesions that don't heal, abnormal skin coloring and texture, burning, and itching, which cause people to feel as though small bugs were crawling under their skin, stinging and biting them. Other symptoms include enormous fatigue, impaired cognitive abilities including short term memory loss, and behavioral difficulties ranging from diagnosed attention deficit to bipolar to obsessive-compulsive disorders. There is usually extensive

The Wim Hof Method: Good For What Ails You

How This Helps Us

Wim Hof (born 1959 in the Netherlands) has developed a breathing technique—reportedly of Tibetan Buddhist origin—that can help restore health in dramatic ways. Breathing rapidly in succession, and then holding the breath, builds up the body's ability to assimilate, utilize, and retain the available oxygen. This confers profound benefits. The blood is highly alkaline, which means that pathogens are fewer in number. The immune cells are more efficient and fight infections better. Tissue cells also work optimally: the nervous system is calmer, muscles have greater strength and stamina, vision is sharper, and hearing is more acute. Most important, the increased oxygenation restores the mitochondria, the fuel-burning units of the cells, which improves energy. Energy can rise so much, in fact, that the breathing is best done in the morning or early afternoon rather than in the evening—otherwise, sleep may be impaired. Scientists studying Wim Hof have measured his blood alkalinity to be as high as 7.75, which is considerably over the medically accepted optimal limit of 7.45. With blood this alkaline, Wim and his advanced students can survive in an atmosphere that contains 30% less oxygen.

A stopwatch will help you time how long you can hold your breath. While some beginners can hold their breath for only 15 seconds, long-time students of Hof learn to hold their breath for 2 or even 3 minutes.

Basic Breathing Protocol

1. INHALE deeply and rapidly. Completely fill the abdominal cavity and lungs, but don't involve the shoulders, which doesn't help with breath intake and wastes energy. EXHALE more slowly than the Inhale. Keep the Inhale/Exhale smooth and connected; don't stop or pause in between. If you need to yawn, incorporate the yawn into the Inhale/Exhale cycle and don't break the rhythm. Breathe into any areas of the body where you feel pain or tightness.
2. Do this Inhale/Exhale at least 30 times. You are hyperventilating to flood your tissues with oxygen, so you'll feel tingling, and perhaps lightheaded or even mild pain in areas that are starved for oxygen.
3. On the 31st EXHALE, hold the breath on completion of the exhale for as long as possible.
4. When you can't hold your breath anymore, INHALE. Hold the breath for at least 10 or 15 seconds.
5. Repeat the above at least twice more. In Wim Hof's online course, he adds more breaths per cycle, and then more cycles, as the weeks progress.

Cold Exposure Protocol (Very Important)

Cold—whether brief or long cold showers, immersion in snow, or bathing in tubs of cold water or even ice—can stress the body in a way that's beneficial, as long as the exposure to cold is gradual and comfortable. Nicknamed "The Iceman" for his ability to maintain a normal body temperature in extreme cold, Hof reached the top of Mount Kilimanjaro in two days in 2009, wearing only shorts and shoes. Hof also achieved world records by lying in ice water for almost two hours, with not only his core but also his extremities remaining warm.

Repeated exposure to cold is an important part of Hof's regimen. Cold turns off the pain receptors to cold while still allowing the remaining (non-pain) receptors to register that the water is indeed cold and not warm. Another advantage of cold water exposure—especially at the neck, shoulders and spine—is that it activates the special brown fat patches that are plentiful there and which induce the burning of "regular" fat (white adipose) for fuel. This is how a normal body temperature is maintained without injury. It's also a mechanism by which normal body weight is maintained. Children are born with abundant brown fat, but it deactivates as they grow older. Adults can restore brown fat function with cold therapy. An April 2018 study, conducted at the University of Tokyo, not only proved (again) that brown fat is activated by cold, but also that properly applied cold can safely turn white fat into beige fat (similar to brown)—by altering how its genes are expressed (via biochemical changes stimulated by the sympathetic nervous system). The researchers concluded that metabolic disorders could, and should, be treated with cold rather than drugs.²⁸

Before or after a warm shower, take a cold shower for as long as you can, over both the front and back of the body. Alternating between cold and warm will help pump the lymph. Even one round of cold water will speed the burning of adipose and improve your resistance to cold. Many people begin with only 15 seconds but soon can tolerate several minutes or more. If you can't do physical exercise, try to become acclimated to at least one cold shower a day.

After only four or five weeks of this daily technique, students report better digestion, fewer food sensitivities and fewer airborne allergies, with psychological benefits of clearer thinking, more confidence, and greater optimism. Another advantage is better tolerance of both cold and heat. Hof's students further testify that even serious illnesses and disabilities can improve or disappear.

This is an unofficial account of the Wim Hof Method.

Please see Wim Hof's website: wimhofmethod.com

central and peripheral nervous system damage, sometimes with eye and gastrointestinal tract involvement. The majority of children with Morgellons are reported by their parents to have mood disorders or autism.

Cotton, genetically engineered with silkworm larvae, may be a source of the parasites that later live in the blood and spinal fluid of the host. (Most cotton is genetically engineered, and the fiber is present in not only clothing but also women's sanitary products.) After a period of up to three years, the worms emerge and produce fibers. In such subjects, the rashes sometimes bleed instantly when scratched, last a few days or several weeks before disappearing, and reappear later, often in different body areas. An analysis of Morgellons fibers, reported by Dr. Hildegard Staninger in October 2006, showed that their outer casing is comprised of high density polyethylene fiber (HDPE), a material often used in fiber optics. The fibers burn at 1700°F, do not melt, and fluoresce under ultraviolet light. Tissue biopsies from Morgellons subjects have also revealed silica glass tubules and carbon nanotubes (the worm-like objects); the black dots are carbon nanospheres. The itching and biting sensations appear to be the electricity that emanates from this nanotechnology.

Morgellons sufferers who were studied had no history in the fiber optic industry, and no reason to contact the material. However, HDPE is used in the nanotechnology field to encapsulate viral protein envelopes—including the kind now being sprayed on conventional crops. The viral envelope, which contains DNA, RNA and mutated RNA, is 1/150th times smaller than the original virus. A nanotechnology process is used to make HDPE molecules small enough to coat a viral envelope, which alters the very nature of the miniaturized material. An analysis of the fibers by Vitaly Citovsky, Biochemistry and Cell Biology professor at Stony Brook University in New York, showed the presence of *Agrobacterium*, a genus of Gram-negative bacteria capable of genetically transforming plant and human DNA.

Simply put, Morgellons is caused by genetic engineering and toxin exposure. As of 2006, the states with the highest number of cases were Texas, California and Florida—all with booming agribusinesses, known for growing genetically engineered and heavily sprayed crops. (After corn and soy, cotton is the most heavily sprayed crop in the US. Five out of the nine pesticides used on cotton are carcinogenic, and 70% of all cotton is genetically engineered. It would be wise to wear organic cotton clothing.) Many people with Morgellons also live in areas of heavy chemtrail spraying. In addition, the appearance of Morgellons coincides with a viral “food additive” that was formally approved by the FDA in August 2006. The virus, called a bacteriophage (which “eats” bacteria and is normally harmless to humans) was presumably introduced into the food supply to eliminate the pathogen *Listeria* (which causes foodborne illness similar to *E. coli*).

Authorities differ as to whether the living and non-living forms that characterize Morgellons are contagious, but the weak, vulnerable and infirm are more susceptible to this

condition. According to one source, over half of Morgellons sufferers have also been diagnosed with Lyme. Informal surveys reveal nearly 5,000 families in the United States with one or more members afflicted by Morgellons.

Many allopathic doctors believe that Morgellons sufferers have “delusional parasitosis,” but the holistic community understands that this horrific condition is all too real. There are several approaches to treatment. Colloidal silver (see Chapter 3) is taken internally and used as an external poultice, kept wet. It's reportedly more effective when silver is used with a small amount of DMSO (dimethyl sulfoxide), in a ratio of 10:1. Salt with Vitamin C causes a copious discharge of detritus and can provide relief; see the Insert, “Some Favorite Holistic Therapies for Lyme” on page 622. Liquid iodine added to the salt and Vitamin C appears to kill the parasites more thoroughly and affords more relief. Poultices of activated charcoal and especially clay could also help (see Chapter 3, **Detoxification**). Some people have found relief and real healing by spraying liquid iodine, in as strong a concentration as can be tolerated, on the affected sites. The Morgellon plastics smother red blood cells and prevent oxygen exchange, so ozone therapy and/or ultraviolet light (which creates ozone in the body) are being used with great success. Dr. Susan Kolb has developed a rigorous protocol of nutritional supplements, with antiparasitic and antifungal agents (many sufferers have *Candida*). She suggests a bath of 2 cups of Epsom salts, ¼ cup of Borax, ¼ cup of sea salt, and 10 opened alfalfa capsules. Be aware that the particles and parasites exiting might cause itching and pain.

One electromedical device that might help manage or even eliminate the parasites altogether is the Magnetex[®], a hand-held unit containing high-power, spinning neodymium magnets. The vortex produced by the Magnetex[®] literally pulls out debris from the cells, tissues, and even the cerebrospinal fluid according to one doctor. Fibers have been seen to emerge from the skin of Morgellons sufferers who use the Magnetex[®]. See Appendices A and C for details.

Morgellons sufferers may have Lyme, so see **BACTERIA**, “*Borrelia*, all types / *Borreliosis* / *Lyme Disease*.” Fungus may be involved, so see **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*Candida albicans*.” A new parasite has recently been found with Morgellons, so also see **PARASITES, PROTOZOA AND WORMS**, “*Funis vermis* / *Homo Funis vermis* / Ropeworm.”

The following frequencies are experimental.

Important! Use a plasma unit. Electrodes deliver electricity, which may stimulate the parasites rather than devitalize them.

Morgellons Parasites, Ruptures, and Fiber Growths

0.16, 0.3, 0.68, 0.9, 2.5, 5.50, 13.93, 93.5, 356.72, 380.67, 412.12, 424.40, 451.17, 483.52, 680

Morgellons External, on Skin

Running 2114 or 680 for a minimum of 30 minutes to stop stinging and itching.

More Experimental Frequencies

8, 20, 30, 120, 160, 304, 330, 432, 464, 500, 625, 665, 727, 740, 787, 800, 835, 880, 920, 1234, 1488, 1550, 1600, 1862, 2016, 2114, 2180, 2489, 2720, 2791, 2855, 2867, 2929, 3176, 3347, 3448, 4014, 4264, 4271.25, 5K, 5611, 5856.375, 5858.25, 7344, 10K, 40K (for as long as desired)

MOTION SICKNESS

Ginger root in all forms, including candied and as powder in hot water, is very effective against nausea. Also see **GASTROINTESTINAL TRACT, Systemic Conditions**, "Nausea."

4.9, 20, 72, 95, 125, 146, 190, 440, 444 + 1865, 465, 522, 600 + 625 + 650, 648, 10K

MOTOR NEURON DISEASE

See "Amyotrophic Lateral Sclerosis (ALS)" under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

MOUTH ERUPTIONS / SORES

See "Oral Lesions" and other applicable entries under **DENTAL, Mouth and Gums**.

MOVEMENT DIFFICULTY / LOCOMOTOR DYSFUNCTION, SPASTIC AND NON-SPASTIC

See "Ataxia" and "Ataxia, Spastic" under **MUSCLES**.

MUCOR AND MUCORMYCOSIS / ZYGOMYCOSIS

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

MULTIPLE CHEMICAL SENSITIVITY (MCS) / ENVIRONMENTAL ILLNESS (EI)

See **CHEMICAL SENSITIVITY / POISONING**.

MULTIPLE MYELOMA

See under **CANCER**.

MULTIPLE SCLEROSIS (MS)

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

MUMPS

See "*Rubulavirus* / Mumps" under **VIRUSES**.

MUSCLES

There are different types of muscles. Voluntary muscles (which move due to our conscious intent) are comprised of striated fibers, their cells long and cylindrical with many nuclei. These are what we normally think of when we say "muscle." However, we have involuntary muscles too (moving without our conscious intent), comprised of smooth fibers. Their cells are elongated, with only one nucleus. The stomach and diaphragm are smooth muscles. The heart is unique, comprised of striated muscle, but it's not voluntarily controlled. The conditions here are meant to cover problems of mainly voluntary muscles, although many of the frequencies are used for conditions involving smooth muscles.

Sometimes, what are thought to be muscular conditions are actually problems with the fascia, or membranous connective tissue that encases the muscles. Sometimes the fascia is stuck together, which prevents the muscles from moving properly. This adhesion could be due to excess mucin, a hydrophilic (water-loving), sugar-protein compound naturally present in connective tissue. Over half of hypothyroidism sufferers have excess mucin in their bodies, which causes health problems in the connective tissue of skin, blood vessels, and nerves as well as muscles. An abnormally low metabolism equals an undercharged system, which will make it difficult to maintain normal body processes or retain benefits of healing; so see **GLANDS, Thyroid**, "Thyroid, Underactive / Hypothyroidism."

Also see **INFLAMMATION** and **INJURIES**. Read the **Exercise** and **Bodywork** sections in Chapter 3. If you're using a pad unit, place electrodes on either side of the inflammation site and include the frequencies 13.5 Hz and 40 Hz, which cover healing, as part of your program. Also see **REGENERATION AND HEALING**. If you have a radiant plasma unit, run 40K Hz for as long as you want to energize the tissues.

Ataxia

Movement difficulty, lack of muscle coordination. Results might be slow if nerve damage exists, but even brain cells can regenerate, so keep trying. Also see entries under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

20, 72, 95, 125, 444 + 1865, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 807, 813, 880, 1500, 1600, 1800, 2170, 2720, 10K, 40K (for as long as desired)

Ataxia, Spastic

Movement difficulty, lack of muscle coordination accompanied by spastic or convulsive movements. Results might be slow if nerve damage exists, but even brain cells can regenerate, so keep trying. Also see entries under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

7.69, 7.7, 7.83, 8.25, 9.19, 9.2

Carpal Tunnel Syndrome / Repetitive Stress Injury (RSI)

Inflammation of the forearm, wrist and fingers, due to repetitive motion that places excessive stress on the tendons, ligaments, and muscles. For soft tissue injuries, electrode units may produce better results than plasma. One researcher thinks that 15 Hz may stimulate cells to receive calcium.

20.5, 6.3 + 148, 15, 146, 444 + 1865, 465, 522, 600 + 625 + 650, 660 + 690 + 727, 685, 700, 760, 776, 787, 802 + 1550, 832, 880, 1K, 1500, 2008, 10K

Contraction

Twisting of muscles and spine.

9.1, 110

Convulsions

Sudden, involuntary movements of the musculature. Also see “Epilepsy” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**. Seek medical advice for this condition.

660 + 690 + 727, 787, 880, 10K, 40K (for as long as desired)

With spasticity: 7.69, 8.25, 9.19, 9.2

Coordination Difficulties / Locomotor Dysfunction

Results might be slow if nerve damage exists, but even brain cells can regenerate, so keep trying. Also see **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

7.83, 20, 72, 95, 125, 444 + 1865, 600 + 625 + 650, 660 + 690 + 727, 787, 776, 807, 813, 880, 1500, 1600, 1800, 2170, 2720, 40K

Cramps, Leg / Intermittent Claudication

Caused by arterial spasm or narrowing due to arteriosclerosis. Another cause of cramps is deficiencies of the following minerals, or imbalanced ratios of the calcium/magnesium or sodium/potassium pairs.

45, 48, 10K, 40K (for as long as desired)

Dupuytren's Contracture

Contraction of the fascia (the membrane envelope around muscles) in the hand, causing the ring and little finger to bend into the palm so they can't be straightened. Massage with castor oil to loosen the fascia.

1.2 + 250

Dystonia, Vegetative

Dysfunction of the involuntary muscles.

20, 40, 120, 240

Fascia, to Soften

Fascia is the connective tissue envelope surrounding muscles. When it's tight or rigid due to emotional stress or adhesions, the muscles lose their flexibility and become stiff. Rolfing is massage that kneads the fascia, increasing muscle flexibility. Also see fibromyalgia and the “Cyst” entries under **TUMORS, BENIGN**.

20

Fibromyalgia

See fibromyalgia (the major category).

Finger Immobility, 4th and 5th fingers

See “Dupuytren's Contracture” in this section.

Frozen Shoulder

See “Shoulder, Frozen” in this section.

Inclusion Body Myositis (IBM)

See under **I**. Also see **AUTOIMMUNE DISORDERS**.

Natural Protocols for Muscle Aches

Magnesium. Abundant on Earth, in sea water and in plant chlorophyll, this mineral is key to over 300 enzyme pathways and cell functions. For stability, magnesium must be bound to something else. These substances affect absorption and confer different properties, although they can overlap. Taken orally, magnesium can be bound to an amino acid chelate: magnesium aspartate, with high absorption and retention, protects brain, heart, and muscles; arginate increases blood flow and improves glucose transport into cells; and glycinate is gentle on the bowels and induces calmness and relaxation. There are also magnesium citrate, a laxative that may inhibit kidney stone formation. Malate relaxes. Orotate inhibits the stress hormone adrenaline (thus helping with sleep), and penetrates cell membranes (thus delivering the mineral to mitochondria and the nucleus). Oxide relaxes muscles but is heavily laxative, so it's not taken often. Taurate helps the heart. And threonate crosses the blood-brain barrier, helping with mental focus. Manganese chloride, a viscous oily liquid, is applied to the skin to relax muscles. Magnesium sulfate, or Epsom salts, is added to bath water to relieve sore muscles.

Enzymes. All have anti-inflammatory properties: pancreatic enzymes, lumbrokinase, serrapeptase, nattokinase, and protease. Taken orally on an empty stomach, the enzymes are used in the bloodstream to scavenge inflammatory proteins instead of for digesting food.

Homeopathy. Single-ingredient remedies *Arnica*, *Ruta grava*, *Hypericum*, and *Staphisagria* are available in pellet form, taken orally. Combination formulas Rescue Remedy® and T-Relief® are available as pellets or liquids (taken orally) or ointments applied externally. Tuning Element™ Relief Patches lessen pain (see Appendix C).

Electromedical Equipment (see Appendix C for details).

- ◆ Avazzia™ or Tennant Biomodulator®
- ◆ BEMER
- ◆ LEDs (red or blue wavelengths)
- ◆ Magnetex®
- ◆ Wave Therapy

Heat and Cold. Cold packs usually work best within 72 hours of an injury. Cold constricts blood and lymph vessels, preventing excess blood and lymph accumulation at the injury site. Leave cold pack on until you feel numb (15 to 20 minutes), remove it for 15 or 30 minutes, and repeat the cycle two or three times (but not more). The swelling should substantially decrease. Use heat after swelling has decreased. Heat brings blood flow (and thus oxygen and nutrients) to the area.

Intercostal Neuralgia

Pain in rib musculature.

20, 125, 444 + 1865, 660 + 690 + 727, 776, 787, 802 + 1550, 880, 2720, 3K, 40K (for as long as desired)

Involuntary Muscles, Dysfunction of

See “Dystonia, Vegetative” in this section.

40

Lumbago

Muscular ache across loins due to either unnatural twisting or too rapid cooling of overheated region

7.69, 7.7, 9.19, 9.2, 8.25, 72, 95, 125, 300, 444 + 1865, 660 + 690 + 727, 787, 800, 802 + 1550, 880, 40K

Movement Difficulty, with or without Spasms

See the “Ataxia” entries in this section.

Muscles, to Stimulate Healing of

13.5

Muscle Spasm

Rapid painful contractions of muscles, which can be due to overexertion, nutritional deficiency, or pH imbalance. A good electrolyte (liquid minerals) formula could really help, plus extra magnesium. Massage is usually helpful. Also see other entries in this section.

First try: 519.34 for 20 minutes

Then try: 6.8, 760, 2720 (for as long as needed)

Muscular Dystrophy

Disorder characterized by weakness and progressive wasting of skeletal muscles despite no concurrent wasting of nerve tissue. The ingestion or inhalation of the artificial sweetener aspartame (or similar poisons), mercury, benzene, lead, and toluene can cause the same symptoms. Veterinarians routinely put selenium in livestock feed to prevent muscular dystrophy; so check for selenium deficiency. Also see **PARASITES, PROTOZOA AND WORMS**, “General (unspecified)” and “Fluke” entries.

First try: 1.2 + 250, 3 + 230, 7.69, 7.7, 9.39, 9.4, 9.6, 20, 28, 153, 660 + 690 + 727, 787, 880, 2900

Then try: 146, 333 + 523 + 768 + 786, 465, 522, 555, 600 + 625 + 650, 776, 802 + 1550, 1850, 10K

**Muscular Dystrophy, Duchenne /
Duchenne Muscular Dystrophy (DMD) /
Pseudohypertrophic Muscular Dystrophy**

Caused by an absence of dystrophin, a protein that helps keep muscle cells intact. Symptoms include weak, wasted muscles, mostly in the hips, pelvis, thighs, and shoulders. Calves are often enlarged. Eventually, DMD affects all voluntary muscles, in addition to the heart and breathing muscles. DMD most often appears in boys age two to six years, who seldom survive beyond 30 years of age. Women can be carriers of DMD but usually exhibit no symptoms.

Light exercise only, swimming, hot baths, and massage may help. There has been preliminary success with green tea extract and the amino acid leucine. Also try frequencies for non-Duchenne muscular dystrophy, above. 153, 5000, 522, 146, 880, 787, 727

Myoma

Tumor comprised of muscle tissue. Also see **CANCER**.

127 (in case of malignancy), 253, 420, 453, 689, 832

In addition, sweep 420–482 for at least 30 minutes.

Myositis

Progressive weakness and inflammation of muscle tissue, due to physical injury, diabetes, or parasites. Also see **BLOOD SUGAR PROBLEMS**, “Diabetes / High Blood Sugar / Hyperglycemia”; injuries; and **PARASITES, PROTOZOA AND WORMS**, “General (unspecified).”

120, 122, 125, 129, 762, 1124, 1169

Neck, Stiff, including Spasticity

Involuntary movement or convulsive muscle contraction.

4.9, 6, 9.19, 9.2

Non-Spastic Paralysis

Convulsive, muscular rigidity accompanying partial paralysis. In some cases, progress might be slow.

8.25, 9.19, 9.2, 20, 72, 95, 125, 444 + 1865, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 880, 10K

Pain due to Injury

0.5, 1, 1.1 + 73, 1.2 + 250, 10.5, 20.5, 5.8, 10, 20, 35, 40, 80, 125, 160, 320, 240, 2720, 6K, 10K, 40K (for as long as desired)

Reflex Sympathetic Dystrophy (RSD)

Involves muscles, nerves, skin, blood vessels, and bones. Severe chronic pain, inflammation, blood vessel or muscle spasms, insomnia, depression, and anxiety. Other symptoms may include short-term memory loss, balance and vision problems, jerky movements, muscle atrophy.

RSD affects mostly women in their 30s and 40s, and often follows a trauma: sprain, fall, infection, bone break, knife wound, heart condition, surgery, or spinal disorder. Symptoms might not appear at the original trauma site. Even light clothing or a breeze can augment pain, and subjects may be sensitive to loud noises or vibrations.

Check adrenal function, balance electrolytes, and consult a holistic health professional. There are no frequencies for this, so try other entries in this section. Also see **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS** and **CHEMICAL SENSITIVITY / POISONING**.

Repetitive Stress Injury (RSI)

See “Carpal Tunnel Syndrome / Repetitive Stress Injury (RSI)” in this section.

Shoulder, Frozen

Painful shoulder. Severely limits mobility and primarily affects the tendons or connective tissue near joints.

660 + 690 + 727, 776, 787, 802 + 1550, 880, 40K

Spasm, Muscular

See “Muscle Spasm” in this section.

Spastic Ataxia

See “Ataxia, Spastic” in this section.

Spastic Paralysis

Convulsive, muscular rigidity accompanying partial paralysis. In some cases, progress might be slow.

7.69, 7.7, 20, 72, 95, 125, 444 + 1865, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 880, 10K

Sprain

Partial rupture or twisting of a joint and its tendon and ligament attachments (perhaps with muscle involvement), tearing the tissue fibers and causing pain and swelling.

Below are frequencies for pain due to injury, stiff neck, and some arthritis frequencies. Also see “Tendomyopathy” in this section.

0.5, 1, 1.1 + 73, 1.2 + 250, 20.5, 4.9, 5.8, 9.19, 9.2, 9.4, 10, 20, 35, 40, 80, 125, 320, 2720, 10K

Stiffness, General

0.5, 1, 1.2 + 250, 10.5, 20.5, 5.8, 10, 20, 40, 80, 125, 160, 240, 300, 304, 320, 328, 660 + 690 + 727, 776, 787, 802 + 1550, 880, 1800, 6K, 40K

Tendomyopathy

Infirm condition of both the muscles and tendons, causing inflammation and pain.

0.5, 1, 1.1 + 73, 1.2 + 250, 10.5, 20.5, 4.9, 5.8, 9.2, 9.4, 10, 20, 26, 40, 80, 146, 160, 320, 465, 522, 2720, 3K, 40K (for as long as desired)

Tension—to Relax

6.8, 7.83, 20, 120, 240, 304, 760, 965, 6K

Tetanus / Lockjaw

The bacillus *Clostridium tetani* causes tetanus, an infectious and painful disease more commonly known as lockjaw. The person suffers persistent, continual contraction of some involuntary muscles. The spasms are focused in the jaw, throat, and face. Tetanus is often contracted by being punctured with a rusty nail. The homeopathic remedy *Ledum* is commonly used to treat this condition.

From Royal Rife, possibly used on his #4 machine: 234K 120, 244, 352, 363, 458, 465, 554, 600 + 625 + 650, 628, 660 + 690 + 727, 787, 880, 1142

End of Muscles section.

MUSCULAR DYSTROPHY, ALL TYPES

See under **MUSCLES**.

MYALGIC ENCEPHALOMYELITIS

See “Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)” under **VIRUSES**.

MYASTHENIA GRAVIS

There are no known frequencies for this condition. See **AUTOIMMUNE DISORDERS** for more information.

MYCELOID LEUKEMIA

See “Leukemia, Myeloid” under **CANCER**.

MYCOBACTERIUM AVIUM

See under **BACTERIA**.

MYCOBACTERIUM LEPRAE

See under **BACTERIA**.

MYCOBACTERIUM TUBERCULOSIS

See under **BACTERIA**.

MYCOPLASMA, ALL TYPES

See under **BACTERIA**.

MYCOPLASMA VIRUS P-1

See under **VIRUSES**.

MYCOSIS FUNGOIDES

See under **CANCER**.

MYOMA

See “Uterine Tumor / Myoma” under **TUMORS, BENIGN** or under **WOMEN, Uterus, Cervix, Ovaries and Fallopian Tubes**.

MYOSITIS

See **INCLUSION BODY MYOSITIS (IBM)**.

—N—**NAEGLERIA FOWLERI**

See under **PARASITES, PROTOZOA AND WORMS**.

NASAL CONDITIONS

See under **RESPIRATORY TRACT, Nose and Sinuses**.

NAUSEA, WITH OR WITHOUT CRAMPING

See **APPENDICITIS**; **MOTION SICKNESS**; entries under **GASTROINTESTINAL TRACT**; entries under **PARASITES, PROTOZOA AND WORMS**; and **WOMEN, Menstruation and Menopause**, “Menstrual Cramps.” Also check for pregnancy.

NECK, STIFF

See under **INJURIES**.

NECROSIS OF LIVER

See under **LIVER AND GALLBLADDER**, *Liver*.

NEMATODES

See “*Ascaris lumbricoides* / Roundworm” under **PARASITES, PROTOZOA AND WORMS**.

NEOPLASM

A neoplasm is a disorganized growth, also known as a tumor, in an organ or in tissue. See various entries under **TUMORS, BENIGN**; but if you suspect your tumor might be cancerous, see the many entries under **CANCER**.

NEPHRITIS AND NEPHROSIS

See separate listings under **URINARY TRACT**, *Kidneys*.

NERVE PAIN, ANY TYPE

See “Neuralgia, Brachial” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

NERVOUS SYSTEM, ALL ASPECTS

See **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

NEUROSPORA SITOPHILA

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

NIGROSPORA

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

NOCARDIA ASTEROIDES / NOCARDIOSIS

See under **BACTERIA**.

NON-HODGKIN'S LYMPHOMA

See “Lymphoma, Non-Hodgkin's” under **CANCER**.

NON-SPASTIC PARALYSIS / LANGUOROUS PARALYSIS

See “Paralysis, Non-Spastic / Languorous Paralysis” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

NOSE CONDITIONS

See **RESPIRATORY TRACT**, *Nose and Sinuses*.

NUMBNESS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

You may not need every frequency in an entry.

Pathogens can mutate.

*Or, you may not know exactly
which pathogens you have.*

*If you cannot get a reliable test for pathogens,
to determine which frequencies you need
try muscle testing or dowsing (see Chapter 4).*

—O—

OAT SMUT

See “*Ustilago avenae* / Oat Smut” under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

OBESITY / OVERWEIGHT

An overabundance of fatty tissue in relation to lean muscle mass. People are considered overweight if, according to the Body Mass Index (BMI), they have 25% fat; obese if they have 30% fat; and severely or morbidly obese if they have 40% or more fat. Figures for the United States suggest that about 127 million adults age 20 years and older are overweight. About 60 million are obese, and about 9 million are morbidly obese.

The body contains two types of fat with distinctly different functions. White (or yellowish) fat is the most familiar and plentiful. It stores excess calories, which are broken down by the body and used for fuel under certain conditions. White fat also releases hormones that control metabolism. These hormones include insulin, growth hormone, adrenaline, cortisol, and leptin (which directly helps regulate appetite and hunger).

The second type of fat, brown fat, acquires its brown color from its content of iron-rich mitochondria, the fuel-burning units in cells. Brown fat keeps us warm because it burns white fat. More plentiful in children than in adults, brown fat is located primarily in the front and back of the neck, across the upper back, and even along the spine. (See Insert on page 770, “The Wim Hof Method: Good For What Ails You.”) When there's too much white fat in proportion to muscle tissue in the body, one of the hormones it normally produces, adiponectin, becomes scarcer or entirely absent. Adiponectin sensitizes the liver and muscles to the hormone insulin, which allows glucose in the bloodstream to enter the cells for fuel. But with less adiponectin, we become insulin resistant and fatter—and, in a vicious cycle, secrete less adiponectin, which makes us fatter, etc. We are also more prone to diabetes and heart disease. When white fat accumulates in the midsection as visceral fat—surrounding the abdominal organs as well as being just under the skin—the risk rises for diabetes, heart attack, and stroke. Fat people are also more prone to dementia.

Brown fat is generated by exercise, which can convert white fat to the more metabolically active brown fat. Brown fat is also created when the body produces melatonin during deep sleep. Regular exposure to cold temperatures also induces brown fat production. Overweight/obesity and lack of exercise impair the brown fat, making it less able or completely unable to burn calories.

The popular notion, that people who are fat simply lack willpower to stop eating, is simplistic and incomplete. Most overweight people are actually starving because they're malnourished. Lacking energy, the person often yields to a craving for empty calorie carbohydrates, which leads to insulin resistance and more obesity (as well as hypoglycemia

or diabetes), which leads to even more carb cravings. A lack of vital nutrients causes a cascade of other problems, including depression, heart disease, joint pain, sleep apnea, and increased susceptibility to infections such as cellulitis.

When a high carbohydrate diet is eaten, *Candida* and parasites can proliferate. These pathogens thrive by stealing vital nutrients from the host, who overeats to compensate for this lack of nutrition—thus compounding the overweight. What we call food cravings are often “Feed me!” messages from the pathogens. The toxic chemicals that these microorganisms excrete affect the brain of the host, causing the host to eat what’s best for the microbe, not the host. This is why a microbe-killing approach to overeating is an essential part of an overall approach.

Medical scientists have actually discovered what they call the “obesity virus.” Chickens and mice injected with the human Adenovirus-36 (AD-36) gained excessive amounts of fat. Apparently, when fat cells are exposed to AD-36, they begin to multiply, in some cases by 300%. Unlike other adenoviruses (which can cause colds, diarrhea and eye infections), AD-36 promotes weight gain. More recent reports also include AD-37 as a contributing factor in obesity.

Overweight can also be caused by, as well as cause, inefficient metabolism. The problem of low thyroid function, estimated to affect at least half the American population, plays a huge part in obesity. Too often, doctors rely on ineffective lab tests to determine hypothyroidism when they should be listening to their clients and basing treatment on symptoms, including body temperature on awakening.

Liver malfunction can also contribute to obesity. One of the liver’s many functions is to convert the inactive form of thyroid hormone (which merely circulates in the bloodstream) into its active form (which gets into the cells, where it’s actually utilized). The liver secretes bile to digest fats, but bile also triggers the release of an enzyme that converts the inactive thyroid hormone into its usable form. If the liver is overburdened with its toxin-neutralizing tasks, the bile it produces will be limited or of poor quality, and it won’t perform the conversion completely (if at all).

Hypothalamus malfunction also plays a role in obesity. That portion of the brain regulates all glands, the balance between the sympathetic and parasympathetic nervous systems, and the hormones that signal satiety and instruct the body to store fat or release it for fuel. Homeopathic human chorionic gonadotrophin (HCG) therapy is being used with limited success to help reset the body’s fat regulation mechanism—along with protocols to correct insulin, leptin, and thyroid hormone resistance.

Ongoing stress alone—whether caused by inadequate or unrestful sleep or physical and emotional trauma—can contribute to obesity. Adrenal function suffers, increasing cortisol levels. People with large bellies (sometimes called “beer bellies”) have cortisol-induced extra fat.

Research indicates that most thin people host different colonies of friendly gut flora than do overweight people. In December 2006, *Nature* published an article about gut

Nutrients and Herbs that Help Curb Obesity

- ◆ **Amino Acids.** These building blocks of protein are immediately bioavailable, and used by the body to build whatever is needed at the moment.
- ◆ **AMP-K (activated protein kinase) with Hesperidin.** Found in every cell, AMP-K regulates glucose uptake, decreases stored body fat, and eliminates cellular debris. With hesperidin (a citrus antioxidant), AMP-K stimulates activity and numbers of mitochondria, reduces fat in the belly and elsewhere, and decreases inflammation.
- ◆ **Black Cumin Seed (*Nigella sativa*) and its Oil.** This anti-inflammatory, digestive, antioxidant, and anticancer agent improves insulin resistance, especially when used in conjunction with exercise.
- ◆ **Chromium & Vanadium.** Together, these minerals balance blood sugar by opening the insulin receptors on cell membranes, thus increasing insulin sensitivity.
- ◆ **Magnesium.** Helps burn food as fuel and promotes oxygenation of tissues.
- ◆ **Probiotics.** In overweight people, friendly flora are fewer and types are limited. Supplementation helps.
- ◆ **Rose Hips.** The fruit of the rose plant stimulates the activity of brown fat, which burns adipose (fat) cells.
- ◆ **Sea Buckthorn Oil and Macadamia Nut Oil.** Both of these oils decrease the amount of fat that often accumulates around the abdomen (visceral fat). Be careful with Sea Buckthorn, however, as it can cause diarrhea when taken in excess.
- ◆ **Turmeric Root (or its extract, Curcumin).** Induces white fat cells to become brown fat through four different mechanisms, one of which is the production of more mitochondria. (See Insert, page 770.)
- ◆ **Vitamin B1 (Thiamine).** A vital nutrient that helps the body process carbohydrates (and improves mood).

microbiome. (“Microbiome” is a popular term used for all microorganisms, their genetic material, and their activities in a given habitat or ecosystem.) The authors wrote: “Comparisons of the distal gut microbiota of genetically obese mice and their lean littermates, as well as those [gut microbiota] of obese and lean human volunteers, have revealed that obesity is associated with changes in the relative abundance of the two dominant bacterial divisions, the *Bacteroidetes* and the *Firmicutes*. . . . Our results indicate that the obese microbiome has an increased capacity to harvest energy from the diet. Furthermore, this trait is transmissible: colonization of germ-free mice with an ‘obese microbiota’ results in a significantly greater increase in total body fat than colonization with a ‘lean microbiota.’ These results identify the gut microbiota as an additional contributing factor to the pathophysiology of obesity.”²⁹

Most technologically advanced societies encourage quickly made, empty-calorie, high-carbohydrate meals. Plenty of restaurants sell such food, cheaply. The only way to obtain nourishing, reasonably priced meals of organic vegetables and high quality animal protein is to devote the time at home to prepare those meals yourself. Few people can or want to do this, but proper diet (besides exercise and enough sleep) is key to avoiding obesity.

The right nutrients help prevent obesity, mood swings, emotional eating, and unhealthy food cravings. Protein builds muscle tissue. Fish oil, fat from grass fed beef and lamb, and olive and coconut oils nourish the body and promote satiety. See Sidebar on page 777, “Nutrients and Herbs that Help Curb Obesity,” and Julia Ross’s *The Diet Cure*. Keep in mind that infection is often accompanied by inflammation, a major factor in obesity.

Also see **BLOOD SUGAR PROBLEMS; CANDIDA, FUNGI, MOLDS AND YEASTS; LIVER AND GALLBLADDER; BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS; PARASITES, PROTOZOA AND WORMS; EATING DISORDERS; GLANDS, Thyroid; GLANDS, Adrenals**; and, under **REGENERATION AND HEALING**, “Hypothalamus Function, to Normalize” and “Endocrine System Function, to Normalize.”

General: 333 + 523 + 768 + 786, 666, 950.6, 958.8, 959, 959.6, 960.4, 962, 967.6, 969.3

Also: Sweep 124–126 for 30 minutes.

Adenovirus-36 (AD-36)

Adenovirus-36 together with Adenovirus-37 can cause obesity. Recently, researchers discovered that monkeys, mice, and chickens injected with the virus gain more weight than do uninfected animals. The virus causes the number of fat cells to increase, and also to triple in size (thus storing more fat). Studies also show that 20% to 30% of overweight humans are infected with the AD-36, compared to 11% of the nonobese population.

See under **VIRUSES**.

Adenovirus-37 (AD-37)

Together with frequencies for Adenovirus-36, it may eliminate obesity. See under **VIRUSES**.

Cellulite Elimination (experimental, to break down abnormal fascia and rupture fat cells)

Cellulite is an abnormal deposit of fat beneath skin that has a dimpled, lumpy, uneven appearance. The skin is usually pale, has a lower than normal body temperature, and is less elastic than normal skin. Affecting 90% of women, even if they’re slender, cellulite is mostly on the buttocks and thighs. Hormonal changes, poor nutrition, inadequate hydration, and lack of exercise contribute to the formation of cellulite. Excessive carbohydrates not only promote weight gain, but they dehydrate the system and (along with charcoal broiled and charred foods) harden the tissues.

The collagen fiber that helps keep fascia elastic is created from many nutrients including sulfur. Foods rich in sulfur include olives, cucumbers, celery, and eggs. The best form of exercise that helps keep the fascia elastic is stretching.

New research suggests that if an overweight area contains cellulite, a disorder of the fascial (connective) tissue may be involved. Some people try to break up abnormally fibrous fascia—which is encasing and protecting globules of fat—with deep mechanical pressure.

The following frequencies are reported to have been discovered by NASA (National Aeronautics and Space Administration), which was applying them via ultrasound to regrow fractured bone. When NASA realized that the frequencies were behaving in unexpected ways, the agency developed a technique called ultrasonic assisted liposuction (UAL). A small rod (cannula), inserted into the fat cells through a very small incision, applies the sound frequencies that literally burst the fat cells, which are then suctioned out of the body. Although the procedure is said to be gentler than conventional liposuction, it’s still invasive surgery. UAL produces high levels of inflammation and fluid buildup, and causes skin deterioration, blisters, hardening of blood vessels, blood clots, and damage to nerves and other tissue. Therefore, it’s worth trying the frequencies below. They are best applied with a pad unit whose electrodes are placed on either side of the fatty tissue. Electrode patches can also be used. Run each frequency for 10 minutes, and drink plenty of water before, during and after, to help eliminate the fat that’s released. Continue for at least seven days for best results; but we don’t have enough information to know whether the frequencies below will work with a frequency unit. Electrodes, placed on or near the affected areas, will probably work better for this purpose than radiant plasma. 171.9, 343.8, 687.5, 22K (see above for explanation on the best way to apply these frequencies)

Fat Elimination (“Fat Buster,” experimental)

This frequency is from Jeff Sutherland. Run 6028.99 for 40 minutes once or twice a week.

Also try: 20, 26, 48, 60, 72, 95, 125, 160, 180, 300, 333, 444, 1865, 522, 523, 555, 660, 690, 727, 768, 787, 802, 880, 942, 951, 952, 959, 960, 962, 968, 969, 1009, 1034, 1060, 1062, 1395, 1500, 1550, 2050, 2720, 4868, 5K, 6989, 7001, 7702, 7009, 7762, 7767, 10K

OBSESSIVE-COMPULSIVE DISORDER (OCD)

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

ODOR SENSITIVITY, ABNORMAL / HYPEROSMIA

See under **RESPIRATORY TRACT, Nose and Sinuses**.

OOSPORA

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

ORAL LESIONS

See under **DENTAL**, *Mouth and Gums*.

ORCHITIS

See under **MEN**, *Testicles*.

ORNITHOSIS

See **PARROT FEVER / ORNITHOSIS / PSITTACOSIS**.

OSTEITIS

See under **BONE AND SKELETON**.

OSTEOARTHRITIS

See under **ARTHRITIS**.

OSTEOMYELITIS

See under **BONE AND SKELETON**.

OSTEOPOROSIS

See under **BONE AND SKELETON**.

OTITIS, EXTERNA AND MEDIA

See under **EARS**.

OTOSCLEROSIS

See under **EARS**.

OVARIAN CANCER

See under **CANCER**.

OVARIAN CONDITIONS, ALL

See under **WOMEN**, *Uterus, Cervix, Ovaries and Fallopian Tubes*.

OZAENA

See under **RESPIRATORY TRACT**, *Nose and Sinuses*.

–P–

PAIN

Pain is the body's way of telling us that something needs attention. Infection, inflammation and injury are usually accompanied by some kind of pain. Drinking water can often help (see Chapter 3, **Water**). White willow bark, the original herbal "aspirin," is always used for pain. The amino acid L-phenylalanine inhibits the enzyme that degrades the body's natural painkiller endorphins; see Julia Ross's *The Mood Cure*.

Chronic pain is often related to low thyroid function, so also see **GLANDS**, *Thyroid*, "Thyroid, Underactive / Hypothyroidism." In particular, see the general information under **INFLAMMATION** and **INJURIES**. Make sure to read the Sidebar, "Supplemental Therapies for Injuries," on page 751. *Important! Don't use electrodes on the heart. See Chapter 4.*

General, Program 1: These are some popular frequencies for arthritis, fibromyalgia, and others. Run for 3 to 6 minutes each: 5, 20, 40, 47, 72, 80, 95, 104, 120, 125, 140, 304, 432, 440, 444, 464, 465, 660 + 690 + 727, 665, 787, 770, 776, 800, 802 + 1550, 880, 1552, 1840, 1865, 1998, 2008, 2127, 2720, 2489, 2720, 3040, 3176, 5K, 6K, 9K, 10K, 40K (for as long as desired)

Short version 20, 95, 2720, 3040, 40K (for as long as desired)

From Dr. Richard Loyd (especially for neck and back pain, and in this order): 130.81, 146.83, 164.81, 174.61, 196, 220.2, 246.94, 138.57, 130.81, 146.83, 164.81, 174.61, 196, 220.2, 246.94, 138.57, 155.56, 185, 207.65, 233.08, 138.57, 155.56, 185, 207.65, 233.08, 4.9, 6, 9.19

Injury-related: 0.5, 1, 1.1 + 73, 1.2 + 250, 10.5, 20, 20.5, 5.8, 10, 20, 35, 40, 80, 125, 160, 240, 320, 324, 500, 528, 2720, 3K, 5K, 6K, 10K, 40K (for as long as desired)

PANCREAS CONDITIONS

See under **GLANDS**, *Pancreas*.

PANDAS (PEDIATRIC AUTOIMMUNE NEUROPSYCHIATRIC DISORDERS ASSOCIATED WITH STREPTOCOCCUS)

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

PANIC ATTACKS

See under **GLANDS**, *Adrenals*.

PAPILLOMA VIRUS / HUMAN PAPILLOMA VIRUS (HPV)

See under **VIRUSES**.

PARALYSIS, INFANTILE

See "Polio / Poliomyelitis" under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

PARALYSIS, LANGUOROUS (NON-SPASTIC)

See "Paralysis, Non-Spastic / Languorous Paralysis" under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

PARAMECIUM CAUDATUM

See under **PARASITES, PROTOZOA AND WORMS**.

PARAMYXOVIRUS

See under **VIRUSES**.

PARASITES, PROTOZOA AND WORMS

The common dictionary definition of "parasite" is an organism that lives within or upon another organism at the expense of that organism. Many different harmful microbes, including bacteria and viruses, can be parasitic (feeding off a host); but in most cases, when people talk about "parasites," they are referring to protozoa and worms.

Protozoa are classified as one-celled animals contained within a membrane. They can propel themselves through fluid either by their flagella (tails), or by first extending some of their cellular material outward (creating a pseudopod,

Pesky Parasites Require Special Handling

Parasites are tenacious. They can be purged from one area of the body, only to migrate and proliferate in another. Dr. Jeff Sutherland writes:

To eliminate parasites requires the precise frequency for each stage of the parasite life cycle (at least four, often seven or more). . . . Also, killing one parasite, or one strain of a parasite allows other strains to proliferate. And killing a parasite infected with another parasite, virus, bacteria, etc., releases those pathogens into your system.

. . . So usually, I figure out what the parasite are infected with and kill that first. Then shoot the parasite in all its stages. Then watch for what starts to proliferate and kill that. While herbal protocols will usually clean out your digestive tract, the parasites will often move to other parts of your body, particularly the brain and sometimes veins which can cause blood pressure and high pulse. Athlete's foot parasites seem to have a particular affinity for the brain, maybe one of the factors in the "jock" personality type. So you really want to use frequency devices that provide a whole body effect. The right herbs are a good adjuvant therapy to keep the body loading down while you eliminate the stragglers with Rife Therapy.

Finally, a parasite may hole up in a very specific organ or portion of an organ . . . So you need to have a means of detecting where in the body a specific parasite is hiding, figuring out what it is infected with, determining the stages of its life cycle and the specific frequencies for those stages, along with slightly different frequencies for different strains of the same parasite.

It's a daunting task. As a result, most people do not get consistent results with Rife frequencies for parasites without some expert assistance.³⁰

By the way, many people who are asymptomatic and don't feel especially bad might be surprised to discover that they harbor parasites. Everyone hosts some pathogenic microorganisms; but in healthy people, these microbes exist in small numbers. When the immune cells aren't functioning well and the terrain is dirty, the microbes proliferate.

or literally "false foot"), and then dragging the rest of their body to meet this "foot." Sometimes they are simply moved through the medium in which they land. Amoebas and paramecia are familiar protozoa. Protozoa reproduce through fission—splitting into two or more identical parts. Parasitic worms are much more complex, and generally are large enough to be seen without a microscope. Although worms do not have skeletal structures, they do possess excretory, nervous, and reproductive systems. They can grow inside the human body to lengths of 11 feet or more. Because of their sophistication and potential for becoming so huge, worms can cause severe damage. They are divided into three major groups: roundworms (also called nematodes), tapeworms (also called cestodes), and flukes (also called trematodes). There are many subgroups within these three major groups, and the worms have varied physical features.

Over 134 parasites can live in the human body. In fact, reviews of autopsies show that parasites may contribute to as much as 75% of all illness, although ordinary diagnostic tests may not detect the presence of worms and parasites due to a sampling error. While a favorite place for parasites to inhabit is the gut, many of them also live in the pancreas, liver, kidneys, brain, and blood.

Conventional tests for parasites are inadequate. Tests that utilize fecal smears to detect intestinal parasites are often unable to find them because once the worms attach to the mucous membranes, they become deeply lodged in the crevices and pockets of the large intestine wall, and avoid being expelled or seen if the layers of waste are tightly impacted. As for other types of parasite tests, according to many lab technicians even mucosal swabs and UV (ultraviolet) stains are limited because they cannot detect the worms in all of their forms—eggs, immature larvae, and adults.

Parasite infestations cause a dizzying array of symptoms. Some of the most common symptoms relate to the digestive tract: nausea, vomiting, constipation, diarrhea, anal itching, extreme weight loss or gain, intestinal cramping, blood in the feces, malnutrition (especially due to the malabsorption of fats), joint and muscle pain, food cravings, and constant hunger. In the genital and urinary tracts, parasitic infection can manifest as vaginal discharge and burning on urination. The skin might be burdened with rashes, hives, itching, and even eczema or rosacea. Other symptoms include coughing, fever, night/day sweats, chills, respiratory congestion, and central nervous system impairment that includes headache, disrupted sleep and difficulty falling asleep, iron-deficiency anemia, blurry vision, and even blindness. When international travelers contract "traveler's diarrhea," they almost always have parasites. People with a history of food poisoning who are still dealing with digestive issues should check for parasites. Also, people who grind their teeth while sleeping may have parasites! Almost any symptom is possible, based on what parasite is present and where it is in the body.

Parasites migrate. They are difficult to eliminate because of their many life cycles; see Sidebar, "To Kill Parasites, Always Use Herbs Too."

It's wise to routinely treat for *Candida* while treating for parasites, for there is a tremendous overlap between the two symptom pictures. Where there's *Candida*, you'll often find protozoa and worms, and vice-versa. In addition to the frequencies, you'll probably need to take herbal remedies—not only to help kill the parasites, but also to repair the damage done to the body by the parasites.

Important! Viruses often live inside bacteria, and bacteria often live inside worms. So even if the worms are killed, you must still deal with the smaller pathogens that play a role in the composite worm/bacteria/virus symptom picture. See listings for other pathogens. Also see **CHEMICAL SENSITIVITY / POISONING**, because heavy metals are often present when parasites have infected the body.

General (unspecified)

3 + 230, 9.6, 20, 35, 47, 60, 64, 72, 80, 95, 96, 102, 112, 120, 125, 128, 152, 240, 334, 422, 440, 444 + 1865, 465, 524, 590, 624, 642, 644, 660 + 690 + 727, 651, 665, 676, 688, 712, 732, 740, 751, 770, 780, 784, 787, 800, 802 + 1550, 854, 880, 1552, 1840, 1862, 1864, 1885, 1998, 2112, 2322, 3176, 4125, 4412, 5K, 10K

Common Single-Celled Parasite (unspecified)

432, 660 + 690 + 727, 753

Acanthamoeba castellanii / *Acanthamoeba Keratitis*

This amoeba, which lives in soil, water and air, causes *Acanthamoeba Keratitis*, an infection of the cornea (the transparent outer covering of the eye), which may result in permanent visual impairment or blindness. Contact lens wearers are at risk, as well as swimmers in polluted water. Experimental: 6242044.4544

Amoebas

310, 333 + 523 + 768 + 786, 532, 732, 827, 1522

Ancylostoma caninum

This worm has very nasty hooks that can grow to five inches in length. It causes anemia, heart conditions, severe infections in the respiratory, genital and urinary tracts, and hypoproteinemia (abnormally low levels of protein in the blood). This worm is common in tropical and subtropical regions—northern Africa, northern India, northern parts of the Far East, and the Andean region of South America—that have inadequate sewage disposal.

From Dr. Marty Monahan: 5050, 6187, 6468

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 383100 (lowest), 386K, 393K and 400K (optimal), 402900 (highest).

Hz set: 949.61 (lowest), 956.80, 974.15 and 991.50 (optimal), and 998.69 (highest).

Whether using the KHz or Hz set, use all the frequencies because this microorganism can be difficult to eradicate.

To Kill Parasites, Always Use Herbs Too

The following herbs have many other benefits besides those related to parasites. Below is a brief summary strictly related to parasites, protozoa, and worms.

- ◆ **Black Walnut Hulls** (green, sometimes the leaves). Kills adult parasites. Mandatory in most formulas.
- ◆ **Clove Bud.** Dissolves some parasites and their eggs. Mandatory in most formulas.
- ◆ **Fennel Seed.** Mildly laxative to humans and irritating to some parasites. Helps remove their wastes.
- ◆ **Male Fern Root.** Immobilizes parasites, preventing them and their eggs from adhering to intestinal tract walls. Highly effective. Mandatory in all good formulas, but toxic in excess.
- ◆ ***Mimosa pudica* leaves.** Ayurvedic herb from India reported to be thirty times more powerful than pharmaceuticals.
- ◆ **Sage Leaves.** Contains relatively high levels of thujone, the same ingredient in wormwood that kills parasites.
- ◆ **Senna Pods, Seeds, and Leaves.** A powerful laxative that should not be used long-term, senna is used in conjunction with other parasite-killing herbs because it promotes peristaltic action that helps expel the parasites. Senna also repels worms.
- ◆ **Tansy Leaves.** Highly toxic to worms, it's used to both repel and expel parasites. In excessive amounts, it may cause spasms, convulsions, and hallucinations in humans.
- ◆ **Thyme Leaves.** Toxic to hookworms, roundworms, threadworms, and skin parasites.
- ◆ **Wormwood Leaves and Flowers.** Kills roundworms, hookworms, whipworms, pinworms, and their larvae. Mandatory in almost all formulas.

Also from Clark: 19914.83, 19566.32, 19217.81

Ascaris lumbricoides / Roundworm

One of the largest and most common parasites found in humans, particularly the lungs where it causes hemorrhaging, inflammation, and edema. These worms migrate throughout the body, blocking passageways, ducts, and blood vessels. Also see **CANDIDA, FUNGI, MOLDS AND YEASTS**, "*Candida albicans*," because *Ascaris* and *Candida* often co-exist.

First try: 650, 771 (both from Dr. John Garvey), 600 + 625 + 650

Also try (many from Michael Tigchelaar): 20, 104, 112, 120, 128, 240, 332, 422, 543, 688, 721, 732, 771, 772, 827, 835, 942, 1500, 3212, 4412, 4152, 5897, 7159

Experimental (from Dr. Richard Loyd): 1011.33, 471910.2143, 4777.5565, 55455.4555, 7456.5499

Ascaris, Other Types (unspecified)

From Richard Loyd: 152, 442, 707, 751, 797, 1146, 8146

Ascaris, unspecified, larvae in lungs

From Dr. Hulda Clark: 20313.12, 1011.33

Babesia / Babesiosis

Babesiosis is an infection caused by any of three *Babesia* protozoa that are transmitted by bites from deer ticks and other insects. This disease infects humans, dogs, rodents and cattle, and often accompanies Lyme disease in humans. Symptoms may include chills, pain in bones and muscles, nausea, vomiting, kidney and heart malfunction, depression, and “air hunger”—the feeling that one cannot draw in enough oxygen, no matter how hard one breathes. *Babesia* is well known for affecting the nervous system and hormones. This protozoan feeds on the iron-rich hemoglobin in the blood, so iron deficiency anemia is common. Symptoms of anemia include fatigue, weakness, shortness of breath, dizziness, tingling in the limbs, swelling of the tongue, cold hands and feet, rapid or irregular heartbeat, brittle nails, and headache—which is one reason that *Babesia* infections do so much damage.

Lyme experts Steven Buhner and Richard Horowitz recommend the herb *Cryptolepis sanguinoleta* to help eliminate *Babesia*. Berberine, an alkaloid compound found in several different plants (including goldenseal, goldthread, European barberry and Oregon grape), is another herb that some have found helpful. The herb cat’s claw (*Uncaria tomentosa*), so effective for Lyme, is also used to help repair the nerve, immune, and hormonal damage caused by *Babesia*. *Mimosa pudica* (“sensitive mimosa” plant) is also very effective in managing both the *Babesia* and the biofilms that it produces.

Because Babesiosis often occurs with other similar illnesses that are carried by the same insects, also see, all under **BACTERIA**, “*Ehrlichia chaffeensis* / Ehrlichiosis,” “*Rickettsia rickettsii* / Rocky Mountain Spotted Fever,” and “*Borrelia*, all types / Borreliosis / Lyme Disease.”

The frequencies are combined for *Babesia microti*, *Babesia gibsoni*, and *Babesia divergens*.

76, 432, 570, 646, 753, 1583, 1584, 5776

Specified for a Doug Coil machine, these frequencies might work on other equipment: 570, 1583

Also try: 6777555.5655 and 6777555.5555 (alternate between the two, 10 seconds each, for as long as desired)

Blastocystis hominis / Blastocystosis

The one-celled intestinal parasite *Blastocystis hominis*, often found in colitis or Irritable Bowel Syndrome, causes Blastocystosis. Symptoms include acute diarrhea and abdominal pain. Also see “*Dientamoeba fragilis*” and “Pinworm / Seatworm / *Enterobius vermicularis*” in this section; they often appear together.

First try (from Dr. John Garvey): 848, 365, 844, 595

Also try: 1201, 1243, 5777, 11425, 11841, 11967, 13145, 13469, 21776

Blastocystis dermatitidis: 1233**Blepharisma japonicum and Blepharisma undulans**

Protozoa that may eat bacteria in decomposing vegetation. 3120

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 405650 (lowest), 406500 (optimal), and 407450 (highest)

Hz set: 1005.51 (lowest), 1007.61 (optimal), and 1009.97 (highest)

Brain Parasite

See “*Naegleria fowleri* / Brain Parasite” in this section.

Clonorchis sinensis / Oriental Liver Fluke

Transmitted through the eating of raw fish, it lodges in the liver bile ducts of humans, dogs, cats, pigs and rodents, causing the duct lining to thicken and the surrounding liver tissue to become inflamed. This nasty parasite grows up to 10 inches long and is estimated to infect about 30 million people in Japan, Korea, China, Taiwan, and Vietnam.

2K

From Dr. Hulda Clark: 21259.08, 1058.43

Cryptosporidium parvum / Cryptosporidiosis

Cryptosporidiosis is an infection caused by the protozoan *Cryptosporidium parvum*. In a healthy individual, it can cause acute diarrhea. It mainly affects children and can be the cause of recurrent diarrhea, but can also cause severe, chronic diarrhea in people with AIDS.

From Dr. John Garvey: 482, 4122

Also try: 660 + 690 + 727, 432, 753, 5776

Dientamoeba fragilis

A parasite that lives in the large intestine of humans, possibly related to *Trichomonas*. Many people are asymptomatic. When symptoms do occur, they include diarrhea, nausea, stomach pain and cramps, loss of appetite and weight, and fatigue. Children age 5 to 10 are most commonly affected.

The infection, common worldwide, presumably remains in the intestine without spreading to other parts of the body. More than one stool sample may be needed to detect the parasite. It is spread through improper sanitation and contaminated water and food, so wash hands after using the toilet.

Pinworm eggs can protect *Dientamoeba fragilis*, so the two are often found together. Therefore, also see “*Enterobius vermicularis* / Pinworm / Seatworm” in this section.

676 (from Dr. Loyd), 1001.42, 20113.98

***Dirofilaria immitis* / Dirofilariasis / Heartworm**

Dirofilaria immitis, carried by several types of mosquitoes, causes Dirofilariasis or heartworm, which affects dogs. Symptoms include coughing, fatigue, weakness, fainting, fever, chills, muscle aches, difficulty breathing, heart pain, irregular heartbeat, heart failure, and eventually death. Once a carrier mosquito bites a dog, the immature larvae enter the bloodstream, remain in the tissue surrounding the bite for about two months, and then enter the bloodstream as worms. It takes three to four months to reach the heart and nearby arteries, where they can grow as long as 11 inches and literally strangle the heart muscle.

The most popular test for heartworm—searching a blood sample for microfilaria—is inconclusive because as many as 38% of infected dogs don't have microfilaria circulating in the bloodstream at the time the test is done. Newer tests, which look for chemical substances produced by adult heartworms, are less commonly done.

Heartworm drugs contain highly toxic arsenic compounds that cause headaches, weakness, joint pains, nausea, vomiting, and even death. According to the American Veterinary Medical Association, 65% of adverse drug reactions, and almost half of all drug-related deaths in dogs, are caused by heartworm prevention medication. The best natural prevention for your dog is a diet of raw meat, vegetables, nutritional yeast, and a bit of fresh garlic. Essential oils like eucalyptus (diluted for your dog's very sensitive nose) make good natural insecticides. Synthetic chemicals are poisonous. For more information, read holistic pet care classics by C.J. Puotinen, Wendy Volhard, and Juliette de Bairacli Levy.

543, 2322 (first two from Dr. John Garvey), 200, 535, 685, 799, 1077

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 408150 (lowest), 409K (optimal), and 411150 (highest)

Hz set: 1011.70 (lowest), 1013.81 (optimal), and 1019.14 (highest)

Also from Clark: 20362.91, 1013.81

***Echinococcus granulosus* (Tapeworm)**

See "Tapeworm" in this section.

Entamoeba gingivalis

Highly contagious, with gum inflammation and infection. From Dr. Richard Loyd: 477

***Entamoeba histolytica* / Amoebic Dysentery**

Entamoeba histolytica is a dangerous protozoan that causes amoebic dysentery, infecting the liver and the digestive tract. Symptoms include severe diarrhea, ulcerated open wound, fever, and blood in the stool. As several common pathogens can cause similar symptoms, also see **BACTERIA**, "*Salmonella typhi* / Typhoid Fever" and "*Shigella*."

**Spectro-Chrome Color Therapy
Works Remarkably Well for Parasites**

Spectro-Chrome Color Therapy (developed a century ago) is a deceptively simple, but highly effective protocol to eliminate parasites. In fact, it may work better than Rife frequencies. Spectro-Chrome was even successfully used by a doctor in a hospital before the FDA pushed it underground. For under one hundred dollars, you can use this elegant protocol that does not require electricity or expensive equipment. See Chapter 3 for details.

First try (from Dr. Garvey): 148, 166, 308, 393, 631, 778

From Dr. Hulda Clark: 19168.02, 954.32

Then try: 333 + 523 + 768 + 786, 465, 660 + 690 + 727, 787, 802 + 1550, 832, 880, 1552 for accompanying infections.

***Enterobius vermicularis* / Pinworm / Seatworm**

Highly contagious infection in intestinal tract, mostly in young children. Symptoms include itching, pain, and rash in anal area. Also see "*Dientamoeba fragilis*" in this section. 20, 112, 120, 422, 423, 732, 773, 826, 827, 835, 4152, 4412

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 420950 (lowest), 423K (optimal), and 425300 (highest)

Hz set: 1043.43 (lowest), 1048.51 (optimal), and 1054.21 (highest)

Also from Clark: 21059.93

Euglena

A protozoan somewhat related to algae.

432, 3215, 3225, 3325, 6448

***Eurytrema pancreaticum* / Pancreatic Fluke**

A flat worm that lives in the pancreatic ducts of humans, pigs, cattle, camels and monkeys, and may cause diabetes due to the extensive tissue damage it creates when it burrows into the pancreas. Also see **BLOOD SUGAR PROBLEMS** to deal with the damage to the pancreas.

1850, 2K, 2003, 2008, 2013, 2050, 2080, 6578, 1043.55, 20960.36

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 420350 (lowest), 421K (optimal), and 422300 (highest)

Hz set: 1041.94 (lowest), 1043.55 (optimal), and 1046.78 (highest)

Also from Clark: 20960.36

***Fasciola hepatica* / Liver Fluke / Sheep Liver Fluke**

Infecting humans and cattle as well as sheep, these parasites are transmitted by ingesting contaminated vegetation. They lodge in the liver bile ducts, thickening the duct lining and inflaming the surrounding liver tissue. They are found throughout the United States, England, Ireland, Europe, the Middle East, Far East, Africa, and Australia. Also see “Fluke, Liver (unspecified)” in this section.

275 (from Dr. Garvey), 14, 826, 830, 834

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

Adult fluke

KHz set: 421350 (lowest), 425K (optimal), and 427300 (highest)

Hz set: 1044.42 (lowest), 1053.47 (optimal), and 1059.17 (highest)

Larval stage

KHz set: 423800 (lowest), 427K (optimal), and 430600 (highest)

Hz set: 1050.50 (lowest), 1058.43 (optimal), and 1067.35 (highest)

Fluke eggs:

KHz set: 422K (lowest), 425K (optimal), and 427600 (highest)

Hz set: 1046.03 (lowest), 1053.47 (optimal), and 1059.91 (highest)

Also from Clark: 21159.50 (eggs) and 21259.08 (larvae)

***Fasciolopsis buski* / Intestinal Fluke**

A type of flat worm implicated in intestinal cancer and ulcers. Also see “Fluke, Intestinal, including *Fasciolopsis buski*” in this section; “Intestinal Cancer” under **CANCER**; and **ULCERS**.

55, 2K

From Dr. Hulda Clark: 21607.59, 1075.78 (adults and eggs); 21508.01, 1070.82 (larvae); 15 (eggs)

Filaria

A subgroup of nematodes, found in the blood and organs of mammals and transmitted from biting insects.

112, 120, 332, 753

Fluke, Blood

See “*Schistosoma mansoni*” and “*Schistosoma haematobium*” in this section.

Fluke, Cat Liver

See “*Opisthorchis felinus*” in this section.

Fluke, General

Flat worm found in the liver, intestines and other areas.

First try: 15, 55, 143, 275, 435, 524, 651, 664, 676, 763, 854, 945, 2K, 6766, 15244

Also try: 15, 55, 524, 854, 2K

Fluke, Intestinal, including Fasciolopsis buski

Appearing in the liver and other places, and implicated in intestinal cancer and ulcers. Also see “Intestinal Cancer” under **CANCER**; and **ULCERS**.

15, 55, 143, 524, 651, 676, 844, 848, 854, 2K, 2084, 2128, 2150, 6766

From Dr. Hulda Clark: 21607.59, 1075.78 (adult and eggs), and 21508.01, 1070.82 (larvae)

Fluke, Liver, Oriental

See “*Clonorchis sinensis* / Oriental Liver Fluke” in this section.

Fluke, Liver (unspecified)

Also see “*Fasciola hepatica* / Liver Fluke / Sheep Liver Fluke” and “*Clonorchis sinensis* / Oriental Liver Fluke” in this section.

143, 238, 275, 676, 763, 6641, 6672

Fluke, Lymph

157, 10050

Fluke, Pancreatic

See “*Eurytrema pancreaticum* / Pancreatic Fluke” in this section.

Fluke, Sheep Liver

See “*Fasciola hepatica* / Liver Fluke / Sheep Liver Fluke” in this section.

***Funis vermis* / Homo Funis vermis / Ropeworm**

Also known as human ropeworm. Found in the intestinal tract and sometimes elsewhere in the body, it's slimy and anaerobic. In some of its stages it looks like a rope and can be over a foot (or meter) long; in other stages, it resembles a branched jellyfish. Reaching its fifth (most mature) stage of development can take 10 years. In 2013 at the International Chronic Disease conference, doctors Alex A. Volinsky and Nikolai V. Gubarev described this newly discovered, uncatalogued parasite that attaches to the large intestine via suction cups it produces, and is erroneously mistaken for intestinal lining, feces, or the decayed remains of food or other parasites.

There's considerable debate in both the conventional and holistic medical communities as to whether a ropeworm is an actual parasite. Because ropeworms were initially found expelled from the bodies of people who did enemas, some doctors hypothesized that the material was biofilms, an overabundance of mucus, or even debris from a *Candida albicans* infection. However, human DNA has been discovered in these rope-like structures, so it's quite possible that these worms are a new life form—the byproduct of genetically modified organisms (GMOs) found in food, combined with human intestinal cells and various species of bacteria.

People harboring these parasites experience gas and bloating, indigestion, headaches, heightened allergies, back pain, and susceptibility to other illnesses. According to Volinsky and Gubarev, the best way to eliminate these worms is by drinking fresh vegetable juices, taking large amounts of Vitamin C, and doing coffee enemas (see Chapter 3, **Detoxification**). Some people have also reported success with 8–10 days of eucalyptus tea enemas. They use the following recipe: For 15 minutes, boil a little over 1 ounce (30 gm) of eucalyptus leaves in 1 quart (1 liter) of water, cover and steep for 2–3 hours, reheat to a tolerably warm temperature, and just before doing the enema add 15–30 drops of eucalyptus essential oil to the solution. Hold the fluid for at least 15 minutes. When the fluid is gone, do another enema with about 7 ounces (200 ml) of lemon juice, followed by a third enema of 2 quarts (liters) of warm water. It's advised to do all enemas between 1 am and 2 am, when the parasites are most active. Avoid sugars and genetically engineered foods.

People suffering from Lyme, autism and Morgellons are reporting the presence of ropeworms in their bodies. Despite the debate about whether this creature exists, some rifers diagnosed with this condition used the following frequencies from Dr. Richard Loyd, passed what appeared to be worms, and got well.

1359 and (for some) 1360

Less tested: 40, 70, 150, 339.875, 550, 1359.5, 2230, 4210, 13980, 90510, 350K, 432140

***Giardia duodenalis* / Giardiasis**

The one-celled *Giardia duodenalis* lives in the intestines of animals and people worldwide, causing giardiasis, a common water-borne illnesses. Common symptoms include abdominal cramps, nausea, and watery diarrhea. There are many strains of the *Giardia* microorganism but no publicly known frequencies for *Giardia duodenalis*. Get them at dnafrequencies.com. Also try *Giardia lamblia*.

***Giardia lamblia* / *Giardia intestinalis* / Giardiasis**

This protozoan found in the intestinal tract is the most frequent cause of non-bacterial diarrhea in North America. Infection is usually caused by drinking contaminated water or eating produce washed in contaminated water. Watery diarrhea usually occurs within a week of ingestion. Other symptoms include intestinal cramping, nausea, gas, and weight loss. Most susceptible are children and those with weak immunity. Disease normally lasts one to two weeks, although chronic infections may last months or even years.

Giardia survives best in a cool moist environment. Several strains have been found, causing more or less severe symptoms depending on the person's constitution. 334, 407, 812, 829, 1K, 2018, 4334, 5429

These frequencies are from Jeff Sutherland.:

adults 430531; *larvae* 231350; *eggs* 110110

Dr. Sutherland emphasizes that the following frequencies must be used in the following sequence: 430531, 231350, 110110, 231350, 430531, to ensure that the life cycle of the parasite is completely disrupted and all stages are caught and destroyed. A sweep of 200–300 Hz is recommended to accommodate the individuality of the terrain.

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 421400 (lowest), 424K (optimal), and 426300 (highest)

Hz set: 1044.55 (lowest), 1050.99 (optimal), and 1056.69 (highest)

Also from Clark: 21109.72

Heartworm

See "*Dirofilaria immitis* / Dirofilariasis / Heartworm" in this section.

Hookworm, probably *Necator americanus*

Also see "*Ascaris lumbricoides* / Roundworm" in this section. 6.8, 440, 2008, 5868, 6436

***Leishmania*, all types**

Transmitted by sandflies, *Leishmania* (protozoa with tails) cause Kala-azar and similar diseases that infect the lymph nodes, liver, and spleen. Symptoms include fever, enlarged spleen, anemia, emaciation, and sometimes skin ulcers, and boils in the nasal cavities and throat. *Tabor's Cyclopedic Medical Dictionary* (copyright 1940) recommends whole blood transfusions and ultraviolet radiation as a treatment. In progressive clinics outside the US, blood is slowly taken outside the body in increments, treated with ultraviolet light to kill the pathogens, and then returned to the body.

This disease originated in the tropics, but it's now global. Depending on the geographical variations in which the protozoa develop, they are all slightly different and cause slight variations in symptoms. Try all the frequencies.

Leishmania braziliensis

787

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 400050 (lowest), 403K (optimal), and 405100 (highest)

Hz set: 991.62 (lowest), 998.94 (optimal), and 1004.14 (highest)

Also from Clark: 20064.19

**Always use 40K for additional benefit.
It brings vitality to the cells.**

Leishmania donovani

525, 781

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 398K (lowest), 400K (optimal), and 402650 (highest)

Hz set: 986.54 (lowest), 991.50 (optimal), and 998.07 (highest)

Also from Clark: 19914.83

Leishmania mexicana

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 400200 (lowest), 402K (optimal), and 403800 (highest)

Hz set: 992 (lowest), 996.46 (optimal), and 1000.92 (highest)

Also from Clark: 20014.40

Leishmania tropica

791

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 402100 (lowest), 405K (optimal), and 407400 (highest)

Hz set: 996.71 (lowest), 1003.89 (optimal), and 1009.84 (highest)

Also from Clark: 20163.76

Leishmania Virus

The *Leishmania* virus is included here because researchers believe that it inhabits the *Leishmania* protozoan and contributes to its pathogenic effects.

"New World" *Leishmania* Virus

428.3, 856.6, 1713.1

"Old World" *Leishmania* Virus

431.8, 863.6, 1727.2

Malaria parasite

See "*Plasmodium falciparum*" in this section.

***Naegleria fowleri* / Brain Parasite**

An amoeba found in soil, water and air that enters through the nasal passages into the brain, causing encephalitis and death in one week if not treated. There are fewer than 100 reported infections in 25 years in the US. People may contract this amoeba when swimming or when using faulty equipment to make saline solutions to clean their contact lenses, ending up with contaminated solution.

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 356900 (lowest), 362K (optimal), and 364350 (highest)

Hz set: 884.67 (lowest), 897.31 (optimal), and 903.13 (highest)

Also from Clark: 18022.92

Nematodes

See "*Ascaris lumbricoides* / Roundworm" in this section.

***Opisthorchis felineus* / Cat Liver Fluke**

Affects the bile duct, small intestine, pancreatic duct and liver of mainly outdoor and feral cats who eat infected snails, lizards, frogs, or fish. Symptoms include diarrhea, vomiting, distended abdomen, jaundice, fatigue.

From Dr. Richard Loyd: 256

Paramecium caudatum

Paramecium with a tail.

1150, 2298, 4500

Pinworm

See "*Enterobius vermicularis* / Pinworm / Seatworm" in this section.

***Plasmodium falciparum* / Malaria Parasite**

Inside mosquitoes that transmits malaria when the host gets bitten, the parasite circulates throughout the body, infecting the liver and bursting red blood cells. Symptoms include fever, anemia, spleen enlargement, and usually death. If *Plasmodium* becomes lodged in a capillary in the brain and blocks circulation, the subject suffers a seizure and dies within three days. In tropical countries, millions of people each year contract malaria and hundreds of thousands die. At least half of malaria sufferers are infected with *Plasmodium falciparum*. (*Plasmodium vivax* infects bone marrow and remains undetected for years.)

For centuries, the Chinese have successfully used the herb wormwood (*Artemisia absinthium*). It's soaked in water overnight and the water is drunk the next morning. Wormwood, activated by the presence of iron, releases free radicals that destroy the parasite's cell membranes. (The red blood cells inhabited by the parasite are rich in iron.) The drug Artemisinin® is derived from *Artemisia annua*, or sweet wormwood.

New research finds a 34% decrease in malaria in children who receive Vitamin A and zinc supplementation. Try all frequencies below for at least 6 minutes each.

222, 550, 713, 930, 1032, 1433 (all from Dr. John Garvey), 20, 455, 555, 743, 1002, 1019, 1348, 1473, 1518

Pneumocystis carinii

In people with weakened immunity, this tiny protozoan can cause fever, fatigue, and weight loss—and then, weeks later, life-threatening pneumonia, which fills the infected and inflamed lungs with copious amounts of fluid and mucus. Symptoms of the pneumonia include dry cough, chills, high fever, chest tightness, and difficulty breathing. As with so many pathogens, this protozoan lives in the body but does not cause problems until the terrain is favorable to its growth. Many people who take recreational drugs or test positive for HIV develop pneumonia from this parasite. An untreated infection can seriously impair the lungs' ability to transport oxygen into the blood, which can lead to death.

This parasite can also infect the eyes, ears, skin, liver and other organs. Also see **BACTERIA**, "*Klebsiella pneumoniae* / Pneumonia" and "*Mycoplasma pneumoniae* / Pneumonia"; and **RESPIRATORY TRACT, Lungs**, "Pneumonia / Bronchial Pneumonia."

First try: 340, 742 (from Dr. John Garvey), 204, 600 + 625 + 650, 660 + 690 + 727, 709.2, 2838.5

Then try: 20, 412, 450, 452, 550, 578, 688, 683, 766, 776, 787, 802 + 1550, 880, 975, 1238, 1474, 1862, 2688

Protomyxzoa rheumatica

Recently discovered by Fry Labs of Scottsdale, Arizona, in the US, the pathogen was believed to be a parasite, perhaps because it appears in so many mosquitoes and even ticks. However, in 2017, a research paper published in Medical Archives discussed new DNA sequencing tests showing that this pathogen is a fungus. See "*Funnelformis mosseae*" (the new name) under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

Protozoa, general

432, 753, 5776

Rotifer

Parasites that live in both fresh and salt water.

4500

From Hulda Clark: 1151K or 2853.04 (for units unable to reach the KHz range)

Ropeworm

See "*Funis vermis* / *Homo Funis vermis* / Ropeworm" in this section.

Roundworm

See "*Ascaris lumbricoides* / Roundworm" in this section.

Roundworms, in Dogs and Cats

See "*Toxocara canis* / Toxocariasis" in this section.

***Schistosoma* / Schistosomiasis / Snail Fever**

This blood fluke, found in snails, infects via contaminated water: drinking it, washing vegetables in it, eating seafood caught in it, and bathing in it. Just 10 seconds of contact can cause serious illness and even death. The fluke attacks the liver, pancreas, and stomach. Symptoms include nausea, chills, sweats, muscle and joint aches, unremitting fatigue, fever, distended abdomen, and a painful enlarged liver. Sometimes the illness can take eight years or longer to progress. Wild animals are affected as well as humans.

The three main species of these trematode parasites infect over 200 million people in about 75 tropical and subtropical countries. This is the most prevalent tropical disease besides malaria. Thousands of people die from this fluke in China and Japan, where sushi (raw fish) is often eaten. However, this is also a disease and chronic problem of impoverished people who must use contaminated lakes and rivers for all of their water needs. Chinese medicine uses bitter herbs to stimulate the liver to produce more bile, theorizing that the bile and not the herbs kill the fluke. This is tough to treat; strong drugs are usually used. Consider herbs suggested for other parasites, but also consult an experienced herbalist if you want to treat by natural means. See the article, "Natural Products as Therapeutic Agents for Schistosomiasis."³¹

Schistosoma haematobium

Typically causes chronic inflammation of the urinary-genital tract and is implicated in cancers of the bladder and cervix.

847 (from Dr. John Garvey), 589, 635, 867

From Dr. Hulda Clark: 473K or 1172.45 (for units unable to reach the KHz range) and 23549.28

Schistosoma japonicum

Causes conditions similar to those created by *Schistosoma mansoni*.

1015.99, 1076.83, 1093.47, 1236.71, 1272.84, 1286.85, 1378.98, 1428.54, 1577.76, 1759.05, 1778.38, 1863.21

Schistosoma mansoni

Typically causes symptoms similar to Hepatitis C. Also involved in cancers of the liver, colon and lymph.

329 (Dr. Garvey), 9889, 1035.49, 1087.17, 1089.26, 1238.74, 1257.39, 1261.50, 1272.84, 1350.21, 1431.24, 1564.68, 1734.81, 1799.57, 1910.34

From Dr. Hulda Clark: 353K or 875 (for units unable to reach the KHz range)

Schistosoma mekongi

1013.26, 1076.83, 1087.17, 1228.66, 1277.15, 1288.04, 1331.18, 1373.96, 1423.15, 1564.68, 1622.97, 1742.81, 1782.58

Seatworm

See “*Enterobius vermicularis* / Pinworm / Seatworm” in this section.

Sheep Liver Fluke

See “*Fasciola hepatica* / Liver Fluke / Sheep Liver Fluke” in this section.

Snail Fever

See “*Schistosoma* / Schistosomiasis / Snail Fever” in this section.

***Strongyloides stercoralis* / Threadworm**

This 2.5 mm-long roundworm lives in southern US, the tropics, and Asia. Skin becomes red and pruritic after the larvae penetrate, usually on the feet. Diarrhea, vomiting, and abdominal pain may follow. Migration of larvae to lungs can result in cough and pneumonia.

From Dr. John Garvey: 423, 732, 4412

Also try: 9.6, 332, 422, 721, 749, 942, 3212

Larval stage

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 398400 (lowest), 400K (optimal), and 402K (highest)

Hz set: 987.53 (lowest), 991.50 (optimal), and 996.46 (highest)

Also from Clark for the larval stage: 19914.83

Also try: 380, 698, 722, 738, 746, 752, 776, 1113

Tapeworm

Found primarily in dogs, and also cats, wolves, sheep, cattle, goats, horses, pigs, rodents, and humans. It can create tumors the size of golf balls and even larger, usually in the liver but sometimes in the lungs and brain as well.

Tapeworm Frequencies from Dr. Hulda Clark

Dr. Clark advised using a gated square wave (not the sine wave) when rifting for tapeworms. Sweep from the lower range to the upper range. The tapeworm must be zapped from the lowest segment (and lowest frequency) to the head (scolex) and highest frequency to prevent the middle segments from regenerating. Include all egg and larva frequencies.

Use the Hz range for devices unable to output frequencies in the KHz range.

Tapeworm	Kilohertz Range		Hertz Range	
<i>Taenia</i> family, unspecified, larvae	436400	440050	1081.73	1090.77
<i>Diphyllobothrium erinacei</i> , head	467250	487550	1158.20	1208.52
<i>Diphyllobothrium latum</i> , head	452900	472300	1122.63	1170.71
<i>Dipylidium caninum</i> , male/female sex organs	439550	444300	1089.54	1101.31
<i>Dipylidium caninum</i> , head	451950	472150	1120.27	1170.34
<i>Echinococcus granulosus</i> , larvae	441150	446500	1093.50	1106.76
<i>Echinococcus granulosus</i>	451600	461500	1119.40	1143.94
<i>Echinococcus multilocularis</i>	455850	458350	1129.94	1136.14
<i>Hymenolepis nana</i> , larvae	478000	481750	1184.84	1194.14
<i>Hymenolepis diminuta</i>	445000	481150	1103.04	1192.65
<i>Moniezia</i>	430350	465200	1066.73	1153.12
<i>Taenia serialis</i>	453600	457800	1124.36	1134.77
<i>Taenia pisiformis</i> , eggs	465200	469700	1153.12	1164.27
<i>Taenia pisiformis</i> , larvae	475200	482100	1177.90	1195.01
<i>Taenia saginata</i> , larvae	476500	481050	1181.13	1192.40
<i>Taenia solium</i> , larvae*	475000	475000	1177.41	1177.41
<i>Taenia solium</i> , head*	444000	448900	1100.57	1112.71

*Because Dr. Clark states that the head of the tapeworm has the highest frequencies, the numbers for the *Taenia solium* larvae and head may have been inadvertently transposed in Clark's original work.

Tapeworms grow in pieces or segments. Most of the time, tapeworms that are cut can regrow the portions that are missing. If the middle segment is killed first—instead of the bottom segment first, and then each adjacent segment sequentially—the separated tapeworm segments can regrow into completely new tapeworms. Also, once a live tapeworm is destroyed by the frequencies, its segments will release any eggs that are inside. Although the eggs are usually expelled with the worm segments by the digestive tract, they sometimes travel elsewhere in the body and hatch. This makes tapeworms difficult to kill. Therefore, antiparasitic supplements are mandatory. To help the body expel tapeworms, Dr. Hulda Clark recommended the following essential oil combination: coriander, dalmatian sage, thyme, cardamom, caraway seed, fennel seed, allspice, nutmeg, and juniper berry.

Science confirms a connection between tapeworms and cancer. The cyst, or sac containing the tapeworm larvae, causes a chronic inflammatory reaction in the organ that it invades, which then leads to the cyst being surrounded by fibrosarcomas.

Because there are so many species of tapeworms, and people usually don't know which kind they have, all tapeworm frequencies are together. Some are for *Echinococcus granulosus*, but there are frequencies for many others too. Whatever you do, don't rely on the frequencies alone!

First try (from Dr. John Garvey): 522, 562, 843, 1223, 3032, 5522

Then try: 142, 164, 187, 333 + 523 + 768 + 786, 410, 453, 542, 624, 662, 663, 803, 854, 1360, 5122

Taenia pisiformis

A hooked worm that infests the intestine of dogs, rabbits and other animals as well as humans. Humans who live with dogs should be careful not to touch their stool.

187 (from Dr. John Garvey), 444 + 1865

Threadworm

See "*Strongyloides stercoralis* / Threadworm" in this section.

***Toxocara canis* / Toxocariasis**

A common roundworm that lives in the small intestine of mammals, *Toxocara canis* affects humans as well as dogs. The disease we call "Toxocariasis" is the name for the infection caused by not only *Toxocara canis*, but also *Toxocara cati*, which infects cats. The infection from this species of worm has become a public health concern because livestock are also susceptible. Eating undercooked beef, lamb, chicken, rabbit, or duck (especially liver) may transport the worms or eggs. Adult dogs are usually asymptomatic, but puppies may experience intermittent vomiting and diarrhea, anemia, and coughing. Symptoms in humans may include fever, muscle ache, weight loss, cough, asthma, nausea or vomiting, or a rash.

Adult cats are usually asymptomatic, but kittens may experience weakness, apathy, appetite loss, diarrhea or constipation, blood in the stool, and (if there are many parasites), intestinal obstruction.

From Dr. Richard Loyd: 567 (dogs only)

***Toxoplasma gondii* / Toxoplasmosis**

This single-cell protozoan inhabits the small intestine of cats; but it can also infect other mammals, birds, reptiles and also humans, causing Toxoplasmosis. Symptoms include fever, abdominal pain, headache and sore throat, and sometimes lesions, hepatitis, pneumonia, and blindness. The pathogen can radically affect brain chemistry and hence a person's emotions, and has been linked to severe neurological disorders including depression, schizophrenia, and violent suicides. Toxoplasmosis infects one-third of all humans on earth.

This parasite is most commonly contracted by handling contaminated cat litter, so pregnant women should minimize contact with cats and avoid emptying their cat's litter box. The protozoan is also transmitted through organ transplants, blood transfusions, and from eating and drinking contaminated food and water. Easily transmitted by a pregnant woman to the fetus, it can cause spontaneous abortion, stillbirth, or mental and physical retardation.

First try (from Dr. John Garvey): 434, 852

From Dr. Hulda Clark: 395K or 979.11 (for units unable to reach the KHz range) and 19665.89

For secondary infections, try: 660 + 690 + 727

***Trichinella spiralis* / Trichinosis**

The infection Trichinosis is well known to cooks, as the parasite *Trichinella spiralis* is found in improperly cooked pork, rabbit, bear meat, and even beef. Symptoms, which can be serious, include diarrhea, fever, conjunctivitis, degeneration and pain in the muscles, and sometimes deterioration and nodules in the central nervous system.

541, 1372 (both from Dr. John Garvey), 101, 230, 822, 1054

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 403850 (lowest), 404500 (optimal), and 405570 (highest)

Hz set: 1001.04 (lowest), 1002.66 (optimal), and 1005.31 (highest)

Also from Clark: 20138.87

Trichomonas hominis

An intestinal protozoan parasite. Causes diarrhea and dysentery. The only *Trichomonas* frequencies publicly available are for those found in the genital tract, below.

610 + 692 + 980

Trichomonas vaginalis

An aerobic protozoan parasite usually found in the vagina, causing itching, burning, and foul-smelling discharge. It can be passed to a man during sexual intercourse.

From Dr. Marty Monahan: 155, 447, 448, 450, 962

Also try: 610 + 692 + 980

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 378K (lowest), 381K (optimal), and 383600 (highest)

Hz set: 936.97 (lowest), 944.40 (optimal), and 950.85 (highest)

Also from Clark: 18968.87

***Trichuris trichiura* / Whipworm**

This small worm with a whip-like shape is thought to infect fully one-quarter of the world's population, primarily in Asia but also in South America and Africa. Children can become infected by eating dirt. Symptoms can include diarrhea (especially at night) and dysentery.

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 388300 (lowest), 406K (optimal), 408900 (highest)

Hz set: 962.50 (lowest), 1006.37 (optimal), and 1013.56 (highest)

Also from Clark: 20213.55

***Trypanosoma brucei gambiense* / African trypanosomiasis / Sleeping Sickness**

Trypanosoma brucei gambiense, a genus of flagellate protozoan found in the blood and often transmitted by tsetse flies, causes African trypanosomiasis or Sleeping Sickness. Symptoms include fever, headache, inability to concentrate, lethargy, drowsiness, droopy eyelids and muscular weakness, and eventually tremors, seizures, coma, and death. Parasitologists used to think that there were two separate species of *Trypanosoma*: *Trypanosoma brucei* and *Trypanosoma gambiense*. However, it appears that there are only small variations in the different types of *Trypanosoma*, and the name "*Trypanosoma brucei gambiense*" is correct. This tropical disease can have an incubation time of up to two years. It causes extensive damage to the central nervous system and is always fatal if untreated. See a doctor if you have symptoms.

20, 120, 255, 316, 403, 656, 780, 700, 724, 988

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz sets:

423200 (lowest), 429K (optimal), and 431400 (highest)
393750 (lowest), 396K (optimal), and 398700 (highest)
423500 (lowest), 426K (optimal), and 428550 (highest)

Hz sets:

1049.01 (lowest), 1063.38 (optimal), and 1069.33 (highest)
976.01 (lowest), 981.59 (optimal), and 988.28 (highest)
1049.75 (lowest), 1055.95 (optimal), and 1062.27 (highest)

Also from Clark: 21358.65, 19715.68

Whipworm

See "*Trichuris trichiura* / Whipworm" in this section.

End of Parasites, Protozoa and Worms section.

PARATHYROID GLAND CONDITIONS

See under **GLANDS**, *Parathyroid*.

PARESTHESIA

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

PARKINSON'S DISEASE

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

PARROT FEVER

See "*Chlamydia psittaci* / Parrot Fever / Ornithosis / Psittacosis" under **BACTERIA**.

PARVO

See under **VIRUSES**.

PASTEURELLA

See "*Yersinia (Pasteurella) pestis* / Pasteurella / Bubonic Plague / Black Death" under **BACTERIA**.

PEDIATRIC AUTOIMMUNE NEUROPSYCHIATRIC DISORDERS ASSOCIATED WITH STREPTOCOCCUS (PANDAS)

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

PELVIC INFLAMMATORY DISEASE (PID)

See under **WOMEN**, *Uterus, Cervix, Ovaries and Fallopian Tubes*.

PEMPHIGUS

See under **SKIN; DENTAL, Mouth and Gums; RESPIRATORY TRACT, Nose and Sinuses**; or **RESPIRATORY TRACT, Throat and Lymph Nodes**.

PERICARDITIS

See under **HEART, BLOOD AND CIRCULATION**.

PERIODONTAL DISEASE

See "Gingivitis / Gum Inflammation and Infection" under **DENTAL, Mouth and Gums**.

PERITONITIS

See under **GASTROINTESTINAL TRACT, Colon / Large Intestine**.

PERNIOSIS

See “Chilblains” under **INJURIES**.

PERTUSSIS

See “*Bordetella pertussis* or *Bordetella parapertussis* / Whooping Cough” under **BACTERIA**.

PESTICIDE DETOX

See under **CHEMICAL SENSITIVITY / POISONING**.

PHARYNGITIS

See the many entries under **RESPIRATORY TRACT**, *Throat and Lymph Nodes*.

PHLEBITIS

See under **HEART, BLOOD AND CIRCULATION**.

PHOTOSENSITIVITY

See under **EYES**.

PIGMENTATION DEFICIENCY

See “Leukoderma / Vitiligo” under **SKIN**.

PIMPLES

See “Acne” under **SKIN**.

PINEAL GLAND CONDITIONS

See under **GLANDS**, *Pineal*.

PINK EYE

See “Conjunctivitis / Pink Eye” under **EYES**.

PINWORM

See “*Enterobius vermicularis* / Pinworm / Seatworm” under **PARASITES, PROTOZOA AND WORMS**; or under **GASTROINTESTINAL TRACT**, *Small Intestine*.

PITUITARY GLAND CONDITIONS

See under **GLANDS**, *Pituitary*.

PLANTAR FASCITIS

See “Heel Pain / Plantar Fascitis” under **INJURIES**.

PLASMACYTOMA

See “Multiple Myeloma” under **CANCER**.

PLEURISY

See under **RESPIRATORY TRACT**, *Lungs*.

PNEUMOCOCCUS

See “*Streptococcus pneumoniae*” under **BACTERIA**.

PNEUMOCYSTIS CARINII

See under **PARASITES, PROTOZOA AND WORMS**.

PNEUMONIA / BRONCHIAL PNEUMONIA, ALL TYPES

See under **RESPIRATORY TRACT**, *Lungs*.

PNEUMONIA / KLEBSIELLA PNEUMONIAE

See “*Klebsiella pneumoniae* / Pneumonia” under **BACTERIA**.

POLIO / POLIOMYELITIS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

POLYARTHRITIS

See under **ARTHRITIS**.

POLYP

See under **TUMORS, BENIGN**.

POLYCYTHEMA VERA

See under **CANCER**.

PONTIAC FEVER

See “*Legionella pneumophila* / Legionellosis / Legionnaire’s Disease / Pontiac Fever” under **BACTERIA**.

PORPHYRIA

Rare constellation of disorders due to the inability to create heme, a component of hemoglobin. Can cause skin lesions, scarring, sensitivity to light, delirium, seizure, coma, and abdominal pain. The neurological aspects of this condition are often precipitated by drugs such as barbiturates. The liver, bone marrow, cellular metabolism, and other basic parts of the body are involved, so also try other symptom pictures. 698 (from Dr. John Garvey), 780

PORPHYROMONAS GINGIVALIS

See under **DENTAL**, *Mouth and Gums* or **BACTERIA**.

PREVOTELLA

See under **BACTERIA**.

PROGESTERONE LEVELS, TO NORMALIZE

See under **REGENERATION AND HEALING**, and applicable entries under **GLANDS, MEN, and WOMEN**.

PRIONS / AMYLOIDOSIS

Amyloidosis is caused by one or more of over thirty amyloid polypeptides (amino acids in chains) discovered by scientists. Amino acids that form proteins are assembled in chains of different lengths that are folded into various shapes. The amino acid composition, their position on the chain, and their shape all help determine the protein’s function. However, if the proteins are improperly folded and become misshapen, they cannot perform correctly.

In people with Alzheimer’s disease and dementia, amyloid beta (a specific amyloid protein) becomes fibrous and tangled, clumping in and around brain cells and forming plaque that kills brain cells. Age increases the chance that more proteins will be improperly folded. Some scientists now believe that the amyloid proteins are infectious. See “Alzheimer’s Disease” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**, for details, including protocols.

Another type of amyloid protein that's improperly folded, and lacks a nucleus and nucleic acid, is a prion (from the phrase "proteinaceous infectious particle"). Its lack of a nucleus causes scientists to call it "unalive," but it still reproduces. Prions are almost impossible to kill or neutralize. They cannot be deactivated with heat (even the high-pressure steam heat of an autoclave), or with ammonia, bleach, hydrogen peroxide, alcohol, phenol, lye, formaldehyde, or radiation. Moreover, prions can remain in soil and other areas for years. After folding into abnormal shapes, they cause nearby normal molecules to abnormally structure themselves as well.

Prions are most often associated with fatal brain diseases, notably sheep scrapie, Bovine Spongiform Encephalopathy (BSE or Mad Cow disease), and Creutzfeldt-Jakob disease (CJD) in humans. A famous prion disease called kuru spread in New Guinea when cannibals ate the brains of those already infected with the disease. Kuru stopped spreading after the practice of cannibalism was discontinued. In the 1990s, BSE spread in Europe when meat and meat byproducts from infected animals were fed to other animals.

The late English organic farmer Mark Purdy believed that prions may result from, rather than cause, damaged tissue because Mad Cow and BSE don't exist in organically raised cattle, or in healthy deer and elk. It's true that healthy animals are more resistant, but some types of prions may in fact be infectious. It's also possible that the Lyme spirochete and other pathogens make the brain more susceptible to becoming infected by (or forming) prions.

According to Dr. Richard Loyd, prions can be removed by either an extract of olive leaf, hydrangea, dandelion and cat's claw, or an extract of elecampane and echinacea. He has also provided the following frequencies.

70, 90, 120, 230, 515, 656, 750, 930, 956, 1106.25, 1214.08, 1378.44, 1525, 1545.9, 1609.375, 1630.86, 1693.36, 1812.5, 1886.25, 1943.65, 1950, 1956.4, 1972.66, 2011.7, 2115.23, 2187.5, 2262.8, 8850, 125210, 15090, 17500, 24400, 29K, 44110, 412K, 417500, 433500, 505K, 72410, 541500, 621610, 791500, 995150

PROCTITIS

See under **GASTROINTESTINAL TRACT, *Colon / Large Intestine***.

PROSTATE CANCER

See under **CANCER**.

PROSTATE CONDITIONS

See under **MEN, *Prostate***.

Always use 40K to revitalize the cells.

Use it for as long as you want.

PROTEIN SENSITIZATION

See **SERUM SICKNESS / ANAPHYLAXIS / PROTEIN SENSITIZATION**.

PROTEUS VULGARIS AND MIRABILIS

See under **BACTERIA**.

PROTOMYXZOA RHEUMATICA

See "*Funneliformis mosseae*" (its new name) under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

PROTOZOA, ALL TYPES

See **PARASITES, PROTOZOA AND WORMS**.

PRURITUS

See "Anus, Itching / Pruritus" under **GASTROINTESTINAL TRACT, *Colon / Large Intestine***.

PSEUDOMONAS, ALL STRAINS

See all under **BACTERIA**.

PSITTACOSIS

See "*Chlamydia psittaci* / Parrot Fever / Ornithosis / Psittacosis" under **BACTERIA**.

PSORIASIS

See under **SKIN**.

PSYCHOSOMATIC PAIN

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

PULMONARY FIBROSIS / FIBROSIS / IDIOPATHIC PULMONARY FIBROSIS

See under **RESPIRATORY TRACT, *Lungs***.

PUS INFECTION

See "*Pseudomonas aeruginosa*" under **BACTERIA**.

PYODERMA (OR PYODERMIA) GANGRENOSUM

See under **SKIN**.

PYORRHEA

See "Gingivitis / Gum Inflammation and Infection" under **DENTAL, *Mouth and Gums***.

—Q—

Q FEVER

See "*Rickettsia* / Q Fever" under **BACTERIA**.

QUINTAN FEVER

See "*Bartonella quintana* / Bartonellosis" under **BACTERIA**.

–R–

RABBIT FEVER

See “*Francisella tularensis* / Tularemia / Rabbit Fever / Deer Fly Fever” under **BACTERIA**.

RABIES

See “Lyssavirus / Rabies” under **VIRUSES**.

RADIATION BLOCKER

This was found by an experienced rifer to nullify radiation emissions from a nearby electrical power plant. This works with a radiant plasma unit only, and it must be kept on for the period during which you require protection. The frequency must be exact. However, keep in mind that this is experimental! Also see **SCHUMANN RESONANCES**.

889.5

RADIATION BURNS, INCLUDING MOST OTHER TYPES OF BURNS

190, 200, 465, 660 + 690 + 727, 787, 880, 10K, 40K (for as long as desired)

RADIATION, TO DETOXYFY

See **CHEMICAL SENSITIVITY / POISONING**. Also see **Detoxification** and **Sauna Therapy** in Chapter 3.

RAGWEED ALLERGY

473

RAYNAUD’S DISEASE

See under **HEART, BLOOD AND CIRCULATION**.

RECTUM, BLEEDING

See “Hemorrhoid” under **GASTROINTESTINAL TRACT, Colon / Large Intestine**.

REFLEX SYMPATHETIC DYSTROPHY (RSD)

See under **MUSCLES** or **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

REFLUX ESOPHAGITIS

See “Acid Reflux / Gastro-Esophageal Reflux Disease (GERD)” under **GASTROINTESTINAL TRACT, Stomach and Esophagus**.

REGENERATION AND HEALING

Although Royal Rife publicly stated that frequencies destroy pathogens, many experimenters today use frequency devices to heal and regenerate tissue. This makes sense. Organisms generate an electromagnetic field, electricity, magnetism—electricity and magnetism are sub-units of an electromagnetic field—scalar waves, and probably other unknown energies too. Electromedicine researchers know that applying the right type of electromagnetic field, electrical current, or

magnetism to the body helps cells repair. Once nutrients freely enter and wastes leave the cells, tissues function.

Both contact and non-contact equipment are used for regenerating cells. Rifers use an EM+ machine, which, like the BCX Ultra, has hand-held plasma tubes (applied to the targeted area) and a stainless steel grounding plate (often placed opposite the targeted area). You can use any electrode (pads) unit, placing the electrodes where they’re needed. Front/back, side/side, and top/bottom positions are common. Patch electrodes—sticky, area-specific patches that adhere to the skin—are useful for this application. Other frequency devices good for cellular rejuvenation include the radiant plasma PERL M+ from Resonant Light, and any of the units from Pulsed Technologies.

The Magnetex[®], Avazzia[™], and Biotransducer[®] (used with the Tennant Biomodulator[®]) are also excellent choices. The VitaSet Generator (VSG) from Pulsed Technologies, which emits regenerative Schumann frequencies, helps with any type of healing. See Appendix A for contact information on the manufacturers, and Appendix C for more details about how the equipment works.

Make sure your nutrient intake is sufficient. This includes good (not fake) fats, minerals, and plenty of clean water. You can use all the frequency therapies in the world, but if your body lacks the raw materials to build new, viable cells, the benefits you receive from any therapy will be limited.

Also see **SCHUMANN RESONANCES**, as well as applicable entries under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**. Most of the frequencies below are from Bruce Stenulson.

General, Highly Effective—First Choice

I have had extensive experience with 40K, which is mathematically related to the popular 10K but works much better. This frequency has allowed me to still feel refreshed and energized at the end of long, 12-hour work days of teaching and being in contact with thousands of people. Rifers have reported a lessening or complete elimination of various symptoms, including pain and sleeplessness.

40K

General, More

Basic short set: 47, 2720 (this is used for pain; run for at least 30 minutes), 2489

General Organ / Gland Support

From Jimmie Holman.

Primary: 23958, 24354, 28251, 29766, 32121, 32670, 36735, 38280, 40K, 44505, 44583, 45549, 45738, 54531, 56133, 56376, 57519, 58806, 63336, 67977, 71874, 84942, 86394, 87000, 89298

Secondary: 20088, 22386, 27144, 44505, 45927, 46683, 48642, 49329, 56889, 57591, 57599, 60501, 60507, 67512, 67518, 68904, 87846, 90885, 91260, 91719

Adrenal Function, to Balance and Normalize

20, 537, 1335, 2250, 10K, 40K (for as long as desired)

Blood: Capillaries, Cell Production (red, white), Pressure, Circulation, Hemoglobin . . .

—to Stimulate, Normalize, Balance, Clean, and Heal

See **HEART, BLOOD AND CIRCULATION**.

Bones, to Stimulate Healing of Fractures

Electrode patches may work better than radiant plasma. Place an electrode on either side of the break.

First try: 2720 for 45 minutes

Then try: 25, then 7.0, and then 50, for 10 minutes each

And then try: 424, 465, 660 + 690 + 727, 784, 787, 880, 1552, 1560, 1577, 10K, 40K

Calcium Metabolism and Utilization, to Improve

Parathyroid disturbance can cause either an excess or a deficiency of calcium.

First try: 9.6, 10K

Then try: 326, 328, 673.1, 771, 4760.5

Cartilage, to Preserve

See the major heading, **CARTILAGE PRESERVATION**.

Chemical Sensitivity, to Reduce

Also see **BACTERIA**, “*Mycoplasma*, many types,” because chemical sensitivity is often associated with an infection from these pathogens.

440, 443, 10K, 40K (for as long as desired)

Collagen, to Build

0.19, 0.37, 7.25, 45.75, 120.50, 424.00, 467.00, 493.10, 750.00, 922.53

Colon Function, to Balance and Normalize

8, 440, 635, 880, 2500

DNA Repair

Sandalwood essential oil also helps to repair DNA.

528, 731/732

Electrical Sensitivity, to Reduce

With the omnipresence of WiFi and other chaotic-signal technologies, people may become hypersensitive to even beneficial electromagnetic fields. If you want to try Rife Therapy, avoid units that use radio frequency (RF) carrier waves because they may make you feel worse (see Chapter 4). Use EMF protection (see Chapter 1, and Appendices A and C for details). See **SCHUMANN RESONANCES**. Also see **BACTERIA**, “*Borrelia*, all types / Borreliosis / Lyme Disease,” as Dr. Dietrich Klinghardt has reported that in his experience, all of his electro-sensitive clients have Lyme. When exposed to harmful electrosmog, pathogens perceive that they’re being attacked and increase their

production of biotoxins. Lyme poisons cause a reduction of the protective fatty myelin sheath surrounding the nerves, which causes the host to become even more sensitive to electromagnetic radiation.

657

Electrolyte Levels, to Improve

Electrolytes are the electrically charged minerals that allow nutrients to pass through the cell membranes and assist in metabolic and numerous other functions. It is crucial that the electrolytes be balanced.

8.1, 20, 10K, 40K (for as long as desired)

Emotional States, to Stabilize, and to Eliminate Rigidity

15, 644, 764

Endocrine System Function, to Normalize

1537

Energy and Vitality, to Improve

Also see “DNA Repair” in this section.

Run for 3 to 5 minutes each: 1056, 2008, 9999

Also run in this order: 528, 15

Estrogen Production Levels, to Normalize (for Males and Females)

Both men and women produce testosterone, although of course women need less. The body sometimes converts the testosterone into excess estrogen, causing problems. Males can develop “man boobs” or have lowered libido; females can gain weight, have mood swings, develop irregular menstrual periods, and also have lowered libido. DIM (Diindolylmethane), a supplement from cruciferous vegetables, blocks conversion of testosterone into estrogen. Men often require 200 mg daily; women, 100 mg. Also see “Testosterone Production Levels, to Normalize,” in this section.

1351

Heart Function, to Normalize

*Stop! See warning (box) at the beginning of the **HEART, BLOOD AND CIRCULATION** section.*

696

Hypothalamus, to Balance and Normalize

1534, 1413, 1351

Immune System Function, to Normalize / Support

There’s a difference between *stimulating* immune function and *regulating* it. Stimulating increases the number of immune cells and intensifies their activity. Regulating supports immune cells so they behave as they should—if the immune response is hyperactive or hypervigilant, the protocol will soothe it (slow it down); and if the immune response is hypoactive or sluggish, that same protocol

will make it work harder (speed it up). Someone with an autoimmune disorder, whose immune response is already in overdrive, will become worse if the immune cells are stimulated. In such a case, it's desirable to *normalize*, rather than stimulate, the system. Normalizing calms hyperactivity and boosts hypoactivity. This is why it's important to distinguish between the two forms of therapy. Unfortunately, people sometimes use the term "boost" regarding immune function when what they really mean is "regulate."

The rifing literature does not distinguish between frequencies that regulate immune function and those that stimulate it, so monitor your responses carefully when using these frequencies (even though positive reports from rifers suggest that the following frequencies support, rather than boost). Most of these frequencies disable pathogens, and some of them help normalize tissue by adding needed voltage to the cells. As with all therapies, if you have an ongoing negative reaction to a frequency, discontinue using it. Also see **AUTOIMMUNE DISORDERS**.

If there are no known infections, first try 40K. This is the best general frequency discovered so far to restore energy and general wellness. Also try the mathematically related 10K, and 835. All of these are normalizing frequencies.

Then try: 1.2 + 250, 3 + 230, 7.69, 7.7, 9.39, 9.4, 9.6, 20, 28, 146, 464, 522, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 802 + 1550, 880, 1850

Also try: 8, 432, 1862, 2008, 2128, 2180, 2791, 2855, 2867, 2929, 3347, 3448, 4014, 5611

Also sweep 1850–2400

Inocine Production, to Stimulate and Normalize

Inocine, a nucleic acid, allows organisms to correctly transfer genetic information from one generation to the next. This program applies to stroke recovery and other conditions.

263.11

Kidney Function, to Balance and Normalize

1.1 + 73, 1.2 + 250, 6.3 + 148, 8, 10, 20, 40, 72, 95, 125, 146, 248, 333 + 523 + 768 + 786, 440, 444 + 1865, 465, 522, 555, 600 + 625 + 650, 800, 802 + 1550, 880, 1500, 1600, 3K, 5K, 10K, 40K (for as long as desired)

Ligaments, to Stimulate Healing

Also see **INJURIES**, "Ligament Sprain."

9.7, 50, 120

Liver Function, to Support and Balance

33.13, 537, 751, 802 + 1550, 1552

Lymph System Circulation / Drainage, to Increase

Lymph tissue is so dense that contact units may work better than radiant plasma units. Also see **CHEMICAL**

SENSITIVITY / POISONING. Sauna therapy helps eliminate waste from the body. Make sure to replace missing electrolytes.

1.5, 3.6, 6.3 + 148, 146, 8, 10, 10.36, 15, 15.05, 15.33, 20, 20.5, 66, 146, 324, 428, 440, 444 + 1865, 465, 522, 528, 660 + 690 + 727, 676, 743, 787, 880, 1K, 2112, 3176, 5K, 10K, 40K (for as long as desired)

Mental Function, to Normalize

35

Muscles, to Stimulate Healing of

13.5

Nerves, to Stimulate Healing of

2.0, 657, 10K, 5K, 40K (for as long as desired)

Nervous System, to Balance, Strengthen and Support

Also see all entries under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

764

Pancreas Function, to Balance

First try: 654

Then try: 1.2 + 250, 10, 15, 20, 26, 440, 444 + 1865, 464, 465, 537, 600 + 625 + 650, 624, 648, 660 + 690 + 727, 776, 787, 802 + 1550, 832, 880, 1500, 1552, 1600, 1800, 2008, 2170, 2127.5, 2489, 2720

Pineal Gland Function, to Balance

20, 480, 537, 662

Pituitary Function, to Balance

635

Pituitary Gland, to Stimulate Human Growth Hormone (HGH) Production

645, 1342, 1725

Progesterone Levels, to Normalize

Do these in sequence: 763, 1446, 1443, 763 (again)

RNA Integrity, to Strengthen

637, 40K (for as long as desired)

Study Mode—to Improve Brainpower and Alertness

From Jimmie Holman. Run each frequency for 3 minutes, in the order listed. Sequence can be repeated. Protocol may not produce the desired outcome if it's used on equipment that's not made by Pulsed Technologies.

31040, 58752, 59232, 39488, 46848, 46784, 33792, 37376, 33408, 40K, 48128, 34048, 43520

Tendons, to Repair

120

Testosterone Levels, to Normalize

Also see “Estrogen Production Levels, to Normalize,” in this section. These frequencies are experimental.

For males: 1444 *For females:* 1445

Thyroid Function, to Balance

First try: 160, 763, 660 + 690 + 727, 40K

Then try: 20, 537, 1570, 10K, 40K, 16K

Tissue Healing and Regeneration

47, 266, 1360, 2128, 2720, 5K, 40K (for as long as desired)

Wounds, to Speed Healing From

Try Vitamins C and E, extra bioflavonoids, and selenium. Also see **INJURIES**. Make sure to read the Insert on page 751.

20, 40, 190, 220, 660 + 690 + 727, 787, 880, 2720, 40K (for as long as desired)

End of Regeneration and Healing section.

RELAXATION, TO PRODUCE

See “Calming, to Produce” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

RENAL DISORDERS

See under **URINARY TRACT, Kidneys**.

REPETITIVE STRESS INJURY (RSI)

See “Carpal Tunnel Syndrome / Repetitive Stress Injury (RSI)” under **INJURIES** or **MUSCLES**.

REPRODUCTIVE DISORDERS

See under **MEN** or **WOMEN**.

RESPIRATORY TRACT

The nose, sinuses, throat, and lungs comprise the respiratory tract. Sometimes an infection is localized. Other times, it spreads. Respiratory conditions can be caused or aggravated by allergies to food and pollen, a weak intestinal tract, and environmental chemicals and contaminants.

No matter what infection you have, you can use a medical nebulizer, humidifier, or both. See Sidebar, “Simple, Effective Protocols to Clear the Lungs, Nasal Passages, and Sinuses.”

Mold contamination causing “sick building syndrome” is a serious and widespread problem, so also see the many entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**. Mold eventually dulls the olfactory nerves, so even if you can’t smell it, it still might be present.

Lungs

The lungs are a pair of very large, spongy organs in the chest cavity on either side of the heart, responsible for respiration (breathing). The lungs protect the heart and they themselves are protected by the rib cage. The left

lung is smaller than the right to provide room for the heart, although each lung does grow larger as the person matures.

Air is inhaled through the nose, into the trachea (windpipe), which branches left and right into the two bronchi, into the smaller bronchioles, and finally the tiny thin-walled air sacs or alveoli. A network of fine capillaries transports blood over the alveolar surface. The alveoli absorb atmospheric oxygen, pass it to the hemoglobin in red blood cells (where it’s carried through the bloodstream), and then excrete, back into the atmosphere, carbon dioxide that’s received from the bloodstream. The honeycombed alveoli have a larger surface area than the outside of the lung to optimize the gas exchange.

The diaphragm is a large sheet of muscle at the base of the chest cavity. The expansion and contraction of the diaphragm (along with the intercostal muscles) increases and decreases air pressure, which expands and contracts the lungs. The moist environment of the lungs makes them susceptible to microbial infections.

Lungs, General Conditions

20, 72, 95, 125, 444 + 1865, 450, 590, 660 + 690 + 727, 776, 787, 802 + 1550, 880, 1800

Abscess from *Nocardia asteroides*

Nocardiosis is transmitted mainly through soil by the bacterium *Nocardia asteroides*, causing abscesses in the lungs, as well as fever and cough that can last several months. There is also the possibility of heart damage, as well as lesions in the brain leading to meningitis.

228, 231, 237, 694, 710, 887, 2890

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 354950 (lowest), 355100 (optimal), and 355350 (highest)

Hz set: 879.83 (lowest), 880.20 (optimal), and 880.82 (highest)

Also from Clark: 17679.39

Actinomycosis

Infection of the brain, lungs, gastrointestinal tract or jaw caused by the fungus *Actinomyces bovis*.

1.1 + 73, 20, 160, 220, 465, 660 + 690 + 727, 787, 10K

Adenovirus Infection

Affects lungs, stomach, and intestines. See **VIRUSES**, “Adenovirus, all types,” for details.

First try: 333 + 523 + 768 + 786, 666, 660 + 690 + 727, 950.6, 958.8, 959, 959.6, 960.4, 962, 967.6, 969.3

Try long set if the above isn't sufficient: 20, 26, 48, 60, 72, 95, 125, 160 (for 5 minutes), 180, 300, 333 + 523 + 768 + 786, 444 + 1865, 522, 555, 787, 802 + 1550, 880, 942, 952, 959, 962, 959 to 969, 1395 (for 5 to 10 minutes), 1500, 2050, 2720, 4868, 5K, 6989, 7001, 7009, 7702, 7762, 7767, 10K

Alternaria tenuis

A fungus associated with lung ailments.

304, 853

Asthma / Bronchial Asthma

Spasm or swelling of the bronchial tubes in lungs. Avoid dairy, sugars, grains, and citrus that could produce mucus. Don't breathe in mold, mildew, and other pollutants.

0.5, 20, 72, 95, 125, 146, 444 + 1865, 522, 660 + 690 + 727, 787, 810, 880, 1233/1234, 1283, 1500, 1600, 1800, 2170, 2720

Bronchial Cancer

See "Lung Cancer" under **CANCER**.

Bronchial Pneumonia

See "Pneumonia / Bronchial Pneumonia" in this section.

Bronchiectasis

Chronic dilation of the bronchi or passages in the lungs, accompanied by coughing and huge amounts of pus (the accumulation of dead white blood cells), often linked to chronic bronchitis, tuberculosis, and whooping cough. Also see "Bronchitis," "Tuberculosis," and "Whooping Cough" in this section.

342, 344 + 510 + 943, 778

Bronchitis

Inflammation of the upper portion of the mucous membranes of the lungs.

9.35, 9.39, 9.4, 20, 72, 333 + 523 + 768 + 786, 344 + 510 + 943, 452, 464, 514, 660 + 690 + 727, 683, 743, 880, 1234, 3672

Bronchopneumonia borinum

See "Pneumonia / Bronchial Pneumonia" in this section.

Catarrh

Mucous membrane inflammation in various places including the respiratory tract. It will also go into the gastrointestinal tract, eyes, and uterus

20, 380, 444 + 1865, 660 + 690 + 727, 787, 800, 802 + 1550, 880

Cold, Chest and Head

Daily ingestion of either echinacea or transfer factor will help build immune function. (Make sure the echinacea tingles in the mouth; otherwise it's not potent.) These noxious microbes constantly mutate to new strains, so also try other frequencies.

1.1 + 73, 20, 72 (for 5 minutes), 120, 125, 146, 333 + 523 + 768 + 786, 344 + 510 + 943, 400, 440, 444 + 1865, 452, 465, 522, 542, 552, 652, 660 + 690 + 727, 683, 720, 725, 746, 751, 766, 768, 776, 787, 800 (for 10 minutes), 802 + 1550, 880 (for 10 minutes), 1K (for 5 minutes), 1110, 1500, 2008, 2489, 3176, 4400, 4412, 5K, 5500, 7760 (for 15 minutes), 8210 (for 5 minutes), 8700, 10K

Cryptococcus neoformans

A yeast that infects the respiratory tract but can turn into a brain infection called meningoencephalitis. Symptoms include headache, nausea, staggering gait, irritability, confusion, and blurred vision.

588, 636 (both from Dr. Richard Loyd), 367, 428, 444 + 1865, 476, 478, 522, 579, 594, 597, 613, 624, 785, 792, 872, 2121, 5880, 5884

Emphysema

Distention from gas or air in the gaps between tissues of the lungs. There are many species that can affect the respiratory tract, so see "*Ascaris lumbricoides* / Roundworm" and other entries under **PARASITES, PROTOZOA AND WORMS**.

Pulmonary Fibrosis / Fibrosis / Idiopathic Pulmonary Fibrosis (IPF)

Scarring in the connective tissue of the lung, making it progressively difficult to breathe. Total respiratory failure can occur, leading to death. "Idiopathic" means that doctors don't know what causes this.

Causes include airborne contaminants such as fungi and asbestos, radiation, drugs, and pathogens. See specific infections if you know what they are. Also see **BACTERIA**, *Staphylococcus*, which is often found in the lungs.

27.5 + 220 + 410

Lung Infection caused by *Gordona sputi*

A bacterium.

381.2, 400.6, 429.1, 435.4, 762.3, 801.2, 858.2, 870.7, 3432.8, 1524.7, 1602.3, 1716.4, 17410.5, 3049, 3204.6, 3483

Nigrospora

Fungus involved in lung, sinus, TB-type infections, and allergies.

302, 350, 764

Simple, Effective Protocols to Clear the Lungs, Nasal Passages, and Sinuses

Organic, therapeutic grade essential oils (EOs) that are antiviral, antibacterial and antifungal, can be used with colloidal silver. The oils are delivered through an aromatherapy device, ultrasonic humidifier, or a medical nebulizer. If you're using a small-chamber nebulizer, add just one drop of an antimicrobial essential oil. If you're using a humidifier, add more essential oils due to the higher volume of silver fluid. Remove any filter or cloth wick from the humidifier first to allow the silver particles to become airborne. EOs can sting unless they're diluted properly. For the nasal wash, use a neti pot or Grossan sinus irrigator.

Inhalation—for Stubborn Infections, Do This First:

- ◆ **Warm Alkaline Water**, 8 ounces (matches the pH in the nasal cavity and prevents the fluid from burning)
- ◆ **Celtic Sea Salt**, ¼ to ½ teaspoon (shrinks the tissues, fights infection, and prevents burning)
- ◆ **Xylitol**, ½ teaspoon (does a fair job of preventing pathogens from attaching to mucous membranes; use xylitol from birch bark and not corn, which is GMO and often from China)
- ◆ **Liquid Iodine**, 2–3 drops (essential nutrient and potent natural germicide)
- ◆ **EDTA** (ethyl-enediamine-tetra-acetic acid), ½–1 teaspoon (helps burst biofilms; good for fungal infections; available as bulk powder online)

Inhalation (Ultrasonic Humidifier):

To colloidal silver, add just a few drops of each EO:

- ◆ **Clove Bud** (*Syzygium aromaticum*), 4 parts
- ◆ **Lemon** (*Citrus limon*), 4 parts
- ◆ **Cinnamon Bark** (*Cinnamomum verum*), 3 parts
- ◆ **Eucalyptus** (*Eucalyptus radiata*), 2 parts
- ◆ **Rosemary** (*Rosemarinus officinalis*), 1 part

Inhalation (Nebulizer):

To colloidal silver, add 1 or 2 drops total of the above EO mixture, as EOs are very potent! The following additional oils are optional. Again, use sparingly.

- ◆ **Oregano** (*Origanum vulgare*), **Tea Tree** (*Melaleuca alternifolia*), **Thyme** (*Thymus vulgaris*), 1 part each

Ingestion:

To open nasal passages and lungs, swallow less than 1/8 of a teaspoon of powdered ephedra (the herb, which is different from the drug extract ephedrine).

In the Ears:

Put a few drops of 3% food grade hydrogen peroxide (H₂O₂) in each ear. Lie on each side and let the H₂O₂ in the opposite ear bubble for several minutes.

Pleurisy

Inflammation of the membrane enfolding the lungs.
20, 72, 95, 125, 444 + 1865, 450, 590, 660 + 690 + 727, 776, 787, 802 + 1550, 880, 2170

Pneumonia / Bronchial Pneumonia

Severe infection and inflammation of the lungs, which fill with copious amounts of fluid and mucus. Symptoms include high fever, chills, cough, and sometimes blood in the mucous lining the lungs.

First try the following frequencies. If they aren't enough, try the rest of the frequencies in the subgroups below for the specific pathogens.

20, 412, 450, 452, 550, 578, 600 + 625 + 650, 660 + 690 + 727, 688, 683, 709.2, 766, 776, 787, 802 + 1550, 880, 975, 1238, 1474, 1862, 2688, 2838.5

Pneumonia / *Klebsiella pneumoniae*

Causes severe pneumonia, an infection and inflammation of the lungs, which fill with copious amounts of fluid and mucus. Symptoms include high fever, chills, and cough. In case there are other pathogens involved in the infection, also see "*Mycoplasma pneumoniae* / Pneumonia" under **BACTERIA; PARASITES, PROTOZOA AND WORMS**, "*Pneumocystis carinii*"; and "Pneumonia / Bronchial Pneumonia," above.

From Dr. Richard Loyd: 130, 410, 446, 650, 970, 7500, 10470, 152500, 493500, 375690, 475540, 398450, 401000, 404650, 419000

Also try: 412, 413, 746, 765, 766, 779, 783, 818, 840, 2838.5

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz sets:

393450 (lowest), 401K (optimal), and 404660 (highest)

416900 (lowest), 419K (optimal), and 421900 (highest)

Hz sets:

975.27 (lowest), 993.98 (optimal), and 1003.05 (highest)

1033.39 (lowest), 1038.60 (optimal), and 1045.79 (highest)

Also from Clark: 19964.61, 20860.78

Mycoplasma pneumoniae / Pneumonia

Mycoplasma pneumoniae causes severe pneumonia, an infection and inflammation of the lungs, usually caught and spread by children and young adults. Symptoms include fluid, high fever, chills, cough, nasal congestion, sore throat, tracheobronchitis, pharyngitis, and mucus and occasionally blood in the lungs. Also associated

with joint, central nervous system, pancreas, liver, and cardiovascular and blood conditions.

First try: 660 + 690 + 727, 688, 709.2, 777, 975, 2688, 2838.5

Then try: 20, 412, 450, 452, 550, 578, 600 + 625 + 650, 683, 766, 776, 787, 802 + 1550, 880, 975, 1238, 1474, 1862

Pneumocystis carinii

First symptoms are fever, fatigue and weight loss—and weeks later, life-threatening pneumonia, with copious amounts of fluid and mucus filling infected and inflamed lungs. Further symptoms include dry cough, chills, chest tightness, and difficulty breathing. Many people who test positive for HIV or take recreational drugs develop pneumonia from this pathogen. The inability of the lungs to transport oxygen into the blood can lead to death. This parasite can also infect the eyes, ears, skin, and liver.

First try: 340, 742 (from Dr. Garvey), 204, 600 + 625 + 650, 660 + 690 + 727, 709.2, 2838.5

Then try: 20, 412, 450, 452, 550, 578, 688, 683, 766, 776, 787, 802 + 1550, 880, 975, 1238, 1474, 1862, 2688

Respiratory Syncytial Virus (RSV)

Most common cause of pneumonia among infants and very young children. Symptoms include cough, fever, runny nose, and wheezing. RSV can cause lifelong infections, especially in the elderly or those with compromised cardiac, respiratory, and immune function.

First try: 1647, 2528, 2542, 3448, 4763

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 378950 (lowest), 380K (optimal), and 383150 (highest)

Hz set: 939.32 (lowest), 941.93 (optimal), and 949.73 (highest)

Also from Clark: 18919.09

Also try: 278, 336, 712

SARS / Severe Acute Respiratory Syndrome / Coronavirus

SARS is probably caused by SARS-CoV, one of several coronavirus strains. Coronaviruses—so named because of the crown, or bulbous corona, at their tops—cause a high percentage of colds in humans, mostly in the winter and early spring.

SARS infects the respiratory and gastrointestinal tracts of humans, dogs, cats, pigs, cattle, birds, and rodents. The pathogen may have originated in China in November 2002 before spreading to

the US, Canada, Singapore, the Philippines, and other countries. Initial symptoms may include sore throat, cough, pneumonia, muscle pain, diarrhea, and anal warts. Humans have a fever of at least 100.4°F (38°C), long with a history of contact with an infected individual. Symptoms generally occur within two to three days following exposure.

Antibiotics, antivirals, steroids, and other drugs have been ineffective. Supplemental oxygen and mechanical breathing support are more successful.

145.9, 165.7, 291.7, 331.4, 437.6, 497.1, 583.5, 662.7, 1167, 1312.8, 1325.5, 1491.2, 2333.9, 2651, 4667.8, 5301.9, 9335.6

Tuberculosis

Highly infectious airborne disease, popularly known for affecting the lungs. Swelling and tumor-like welts of tissue may appear not only in the lungs, but also in the meninges (the membrane around the spinal cord) and the intestines. Other symptoms include fever, cough, and difficulty breathing. The list below is abbreviated. As there are so many frequencies for both the disease and what is regarded as “secondary infections” springing from the disease, also see **TUBERCULOSIS** (the major heading).

First try: 369K (for the rod form, possibly used on Royal Rife’s #4 machine)

Then try: 21508.01, 2127.5, 1070.82, 660 + 690 + 727

And then try: 20, 221, 333 + 523 + 768 + 786, 465, 532, 590, 776, 787, 799, 800, 801, 802 + 1550, 803, 804, 1132, 1500, 1600, 1644, 2008, 2313, 3353, 6516

Nigrospora

Fungus involved in tuberculosis-type infections. 302 (from Dr. John Garvey), 350, 764

Whooping Cough

Caused by bacteria *Bordetella pertussis* or *Bordetella parapertussis*, whooping cough is a serious disease that can permanently disable infants or even cause death. Symptoms include runny nose, diarrhea, fever, and a persistent cough that (mostly in people over 6 months of age, before adulthood) ends with a “whoop” noise when the person breathes. The coughing spells can lead to vomiting and choking.

First try: 526, 765 (both from Dr. John Garvey), 46, 284, 660 + 690 + 727, 697, 906, 9101

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 329850 (lowest), 331K (optimal), and 332250 (highest)

Hz set: 817.62 (lowest), 820.47 (optimal), and 823.57 (highest)

Also from Clark: 16479.52

Also try: 776, 787, 802 + 1550, 832, 880, 1234, 7344

Nose and Sinuses

The nose is lined with mucus and thousands of cilia, or tiny hairlike projections. The cilia trap airborne particles and dirt so they don't get into the lungs.

A sinus is a pouch or cavity in any tissue; but when people say "sinuses," they generally mean the four pairs of air-filled spaces in the skull bones at the face. These spaces are in the upper jawbone under the eyes; in the bone of the forehead over the eyes; between the nose and the eyes, backwards into the skull; and in the center of the skull base. Medical researchers hypothesize that the purpose of the sinuses is to help warm and humidify inhaled air before it reaches the lungs; to increase resonance in the voice; to provide a buffer against blows to the face; to increase the surface area for odor detection; and even to modulate vision (breathing alters the shape of the sinuses, and thus the pressure on the inside of the eyeball changes).

It's relatively easy for the moist nose and sinuses to become blocked and swollen from allergic inflammation or microbial infection. Dr. Murray Grossan invented an electric sinus irrigator that pulses water up through the nose and into the sinuses. Once the dead cells, microbial waste, and excess mucus are mechanically drained, the area is less susceptible to becoming reinfected—and better equipped to remove future debris.

If your nose and sinus problems are chronic, check for a deviated septum, an abnormally crooked positioning of the inside cartilage in the nose that makes it difficult to breathe. Other contributing factors are airborne pollutants, allergies, and dental infections.

If you want to use many numbers that are close together, program your machine for a sweep so you can save time. For instance, one sweep could be 400–472, another sweep could be 600–690, and so on. Also see "Influenza" and "Adenovirus" under **VIRUSES**, and the many entries under **CANDIDA, FUNGI, MOLDS AND YEASTS** and under **PARASITES, PROTOZOA AND WORMS**.

General, Nose and Sinuses

3 + 230, 20, 30, 33, 72, 95, 120, 125, 146, 254, 303, 330, 430, 444 + 1865, 470, 484, 522, 555, 610 + 692 + 980, 620, 624, 644, 646, 660 + 690 + 727, 740, 742.4, 787, 790, 864, 866, 986, 880, 1234, 1550, 1918, 2900, 2213, 2600, 2650, 2950, 4412, 5148, 7344, 10K, 40K

Allergies, Many Types

See **ALLERGIES**.

Anosmia

See "Smell, Loss of / Anosmia" in this section.

Cold, Chest and Head

Daily ingestion of either echinacea or transfer factor will help build immune function. (Make sure the echinacea tingles in the mouth; otherwise, it's not potent.) These pathogens constantly mutate to new strains, so also try other frequencies.

1.1 + 73, 20, 72 (for 5 minutes), 120, 125, 146, 333 + 523 + 768 + 786, 344 + 510 + 943, 400, 440, 444 + 1865, 452, 465, 522, 542, 552, 652, 660 + 690 + 727, 683, 720, 725, 746, 751, 766, 768, 776, 787, 800 (for 10 minutes), 802 + 1550, 880 (for 10 minutes), 1K (for 5 minutes), 1110, 1500, 2008, 2489, 3176, 4400, 4412, 5K, 5500, 7760 (for 15 minutes), 8210 (for 5 minutes), 8700, 10K, 40K

Hay Fever

Inflamed mucous passages in upper respiratory tract and nose, catalyzed by external irritants such as pollen. Symptoms include sneezing, coughing, watery discharge from the eyes, headache, and sinus congestion. Symptoms are due to high levels of histamine—a hormone-like, inflammatory substance produced by certain body cells. The adrenals are intimately tied to allergic responses: when fatigued, the glands can't produce enough cortisol to counter the effects of histamine.

The bioflavonoid quercetin helps. The best formulas contain adaptogenic herbs for the adrenals. With the right formula, the adrenals function and symptoms quickly disappear. See Sidebar on page 731 for a list of adaptogens. One excellent formula is Allergy Modulator™ from Progressive Laboratories. It contains Indian tinospora, holy basil, stinging nettle, *Picrorhiza kurroa*, and brown algae (*Ecklonia cava*).

Some homeopathic remedies (including *Alium cepa*) may help this condition. Eliminate mold, mildew, and chemicals from your environment and food. Also see **ALLERGIES**, and various entries under **CANDIDA, FUNGI, MOLDS AND YEASTS** and under **GLANDS, Adrenals**. Hay fever can indicate systemic distress. Don't rely solely on frequencies.

20, 660 + 690 + 727, 787, 880

Nasal Congestion and Infection

20, 440, 444 + 1865, 465, 660 + 690 + 727, 776, 787, 802 + 1550, 880

Nigrospora

Fungus involved in allergies, and in many sinus, lung, and TB-type infections.

302, 350, 764

Odor Sensitivity, Abnormal / Hyperosmia

This can indicate a weakened adrenal system, as well as a toxified system. Also see **GLANDS, Adrenals** and **CHEMICAL SENSITIVITY / POISONING**.

20, 146, 522, 812, 10K, 40K (for as long as desired)

Ozaena

The mucous membranes of the nose atrophy and are accompanied by discharge and crusts.

184, 222, 439

Pemphigus

Rare autoimmune disorder. Symptoms include blisters in the outer layers of the skin and in the mucous membranes of the nose, mouth, and throat. Also see **AUTOIMMUNE DISORDERS** as well as listings for the affected areas of the body.

893 (from Dr. John Garvey), 665, 694

Rhinitis

Runny nose.

1.2 + 250, 3 + 230, 7.69, 7.7, 20, 28, 146, 465, 522, 660 + 690 + 727, 787, 802 + 1550

Sinusitis

Infection in sinus cavities. Symptoms include stuffy or completely clogged nasal passages, pain in sinus cavities in face, headache, discharge of thick green or yellow mucus, feeling of facial “fullness” that gets worse on bending over, and sometimes fever.

Acute sinusitis is most often caused by bacteria such as *Streptococci* and *Staphylococci*, and occasionally the Influenza virus. However, a two-year Mayo Clinic study revealed that more than 90% of 210 people with chronic sinusitis had fungal (rather than bacterial or viral) infections.

Also see “*Nigrospora*” in this section; “Influenza” and “Adenovirus” under **VIRUSES**; and the many entries under **CANDIDA, FUNGI, MOLDS AND YEASTS** and under **PARASITES, PROTOZOA AND WORMS**.

If you want to use many numbers that are close together, program your machine for a sweep so you can save time. For instance, one sweep could be 400–472, another sweep could be 600–690, etc.

20, 60, 95, 72, 107 (for 5 minutes), 120, 125, 128, 146, 160 (for 5 minutes), 225, 244, 304, 320, 367, 400, 414, 427, 432, 440, 456, 472, 522, 524, 528, 548, 597, 610 + 692 + 980, 614, 615, 618, 660 + 690 + 727, 664, 682, 712, 732, 741, 784, 787, 802 + 1550, 820, 880, 942, 952, 1150, 1234, 1311, 1395 (for 5 minutes), 1466, 1500, 1520, 1600, 1862 (for 5 minutes), 1865, 2K, 2600, 5500, 3672, 4392, 4400, 4412, 7344. Also try a sweep in the 700 range.

Inhalation Therapy is a powerful, effective, and pleasant protocol.

See page 693 for an essential oil recipe.

Smell, Loss of / Anosmia

Can be due to various microbial infections. Also see other entries in this section.

20, 10K (5 minutes each)

Sneezing

Forceful expelling of air through the nose and mouth by spasmodic contraction of the respiratory muscles, in an effort to rid the system of allergens, pollutants, and pathogens that are irritating the nose and respiratory tract. There can be many causes, so see entry pertinent to your other symptoms.

Throat and Lymph Nodes

The throat can be sore for many reasons: microbial infections, food allergies, even pollution. Often when the throat is sore, the lymphatic tissue at the neck is swollen as well; and it is said that the person has “swollen glands.” This is somewhat misleading, because the “glands” in this case are really lymph nodes, part of the lymphatic system. (See lymphatic system for frequencies not covered here.)

The 500 to 600 lymph nodes—clustered in the underarms, groin, neck, chest, and abdomen—are constructed from connective tissue in a honeycomb shape. When the body is fighting an infection, the lymphocytes multiply rapidly, therefore making the lymph nodes swell. The two types of lymphocytes (which have different jobs) are T cells (so called because they mature in the thymus) and B cells (so called because they mature in the bone marrow). The spleen and tonsils are also part of the lymphatic system. The spleen fights infections in the blood, filtering blood rather than lymph.

Electromedicine and frequency devices that are made for contact with the body move lymph better than freestanding radiant plasma units because the dense lymph tissue needs mechanical stimulation to promote flow.

There’s one little known, but major component of lymphatic conditions: excessive mucin. Mucin is a hydrophilic (water-loving), sugar-protein compound naturally present in the connective tissue located in or around lymph, as well as skin, blood vessels, muscles, nerves, and other parts of the body. Excess mucin levels occur in over half of the people who suffer from low thyroid function. Therefore, also see **GLANDS, Thyroid**, “Thyroid, Underactive / Hypothyroidism.”

The symptoms of a sore throat might result from *Candida albicans*, so see that entry under **CANDIDA, FUNGI, MOLDS AND YEASTS**. See **BACTERIA**, “*Streptococcus pyogenes* / Strep Throat” and “*Actinomyces israelii* /

Actinomycosis.” You will have better results if you know the specific microbe involved. Finally, because the kidneys, liver and lymphatic system are all primary channels of cleansing, also see **CHEMICAL SENSITIVITY / POISONING**.

General (short set)

20, 146, 380, 440, 522, 660 + 690 + 727, 760, 776, 784, 802 + 1550, 880, 1600

Adenoids, Swollen

Swollen lymphatic tissue located primarily in the throat, but sometimes in other places too.

14, 20, 333 + 523 + 768 + 786, 428, 444 + 1865, 590, 660 + 690 + 727, 776, 780, 787, 802 + 1550, 807, 810, 880, 1570, 2K, 2170, 2720

Angina Quinsy

Inflammation of a lymph gland in the throat. This is not angina pectoris, which is pain in an area of the heart (in which case you should see that entry under **HEART, BLOOD AND CIRCULATION**). As inflammation may or may not include infection, it has its separate category with fewer frequencies. Also see “Glands, Swollen” in this section.

428, 465, 660 + 690 + 727, 776, 787

Cold, Chest and Head

Daily ingestion of either echinacea or transfer factor will help build immune function. (Make sure the echinacea tingles in the mouth; otherwise it's not potent.) These pathogens constantly mutate to new strains, so also try other frequencies.

1.1 + 73, 20, 72 (for 5 minutes), 120, 125, 146, 333 + 523 + 768 + 786, 344 + 510 + 943, 400, 440, 444 + 1865, 452, 465, 522, 542, 552, 652, 660 + 690 + 727, 683, 720, 725, 746, 751, 766, 768, 776, 787, 800 (for 10 minutes), 802 + 1550, 880 (for 10 minutes), 1K (for 5 minutes), 1110, 1500, 2008, 2489, 3176, 4400, 4412, 5K, 5500, 7760 (for 15 minutes), 8210 (for 5 minutes), 8700, 10K

Flu

See “Influenza” under **VIRUSES**.

Fluke, Lymph

Worms appearing in the lymph vessels.

157, 10050

Glanders

From the bacillus *Pseudomonas mallei*, this condition primarily involves the mucous membranes of the mouth and respiratory system, and occasionally the lymph nodes (where it is called Farcy). Mostly horses, mules and donkeys are affected,

but occasionally the pathogen is transmitted to humans, goats, sheep, cats, and dogs. Glanders is not common in the United States or Europe, but it still appears in Asia, Africa, and South America. Get more frequencies from dnafrequencies.com.

First try: 501, 660 + 690 + 727, 687, 743, 774, 857, 875, 1273

Also try: 20, 787, 880

Glands, Swollen

This may include the tonsils, part of the vast network of lymphatic channels throughout the body. Lymph glands (actually nodes) are prominent in the neck, underarms, and groin. One major job of lymph is to house white blood cells that gobble up harmful microorganisms. As the lymph vessels are designed to protect the body during infection, it makes sense that when the body is sick from a major disease, the tonsils and glands in the neck usually become swollen.

Removing the tonsils simply because you're sick is unwise. The tonsils exist for a reason: they are on the front line of immune defense. However, it's also true that if the tonsils swell excessively, the tongue may be forced forward in the mouth too much and interfere with the position of the teeth. Also, very swollen tonsils may cause mouth breathing, which provides 25% less air than does nose breathing—and with less oxygen in the blood, the heart has to work harder. Therefore, many factors must be considered if you are thinking of removing your child's tonsils (or your own).

It can be difficult to distinguish between swelling due to microbial infection and swelling due to simple clogging, which doesn't necessarily involve pathogens. However, unless the lymphatic vessels are stimulated to relieve the clogging, infection may develop. A severe condition obviously requires a more aggressive approach (and with more frequencies) than does simple congestion.

Use frequencies for specific known microbes. Also see “Lymph System Circulation / Drainage, to Increase” in this section.

452 (from Dr. John Garvey), 1.1 + 73, 1.2 + 250, 20, 146, 380, 428, 440, 444 + 1865, 465, 428 to 482, 522, 590, 600 + 625 + 650, 660 + 690 + 727, 776, 784, 787, 802 + 1550, 1500, 810, 832, 880, 1500, 1600, 1800, 2489, 2720

Lemierre's Syndrome

Once rare, but now more common with antibiotic drug resistance. Features throat and mouth infection and clotting (thrombophlebitis) in the jugular vein. Caused by *Fusobacterium*.

Many strains, from Dr. Richard Loyd: 377, 948, 953

Lymph Plaque

Buildup of solidified material in the lymph channels.
346, 596

Lymph System Circulation / Drainage, to Increase

Lymph tissue is so dense that contact instruments usually work better for this symptom picture than radiant plasma devices. Also see applicable frequencies under **CHEMICAL SENSITIVITY / POISONING**. To eliminate waste from the system, also do sauna therapy. Replace missing electrolytes. First try: 522, 146

Then try: 6.3 + 148, 10, 10.36, 15, 15.05, 20.5, 66, 146, 428, 440, 444 + 1865, 465, 660 + 690 + 727, 676, 787, 880, 3176, 10K

Lymphangitis

Inflammation of lymph vessels in humans and horses, most commonly involving *Strep* but also including other bacteria as well as fungi.

Also see the many entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

574, 778, 1120, 1078, 3176

Lymphatic Leukemia

See “Leukemia, Lymphatic” under **CANCER**.

Lymphocytes, to Stimulate Production of

2791, 2855, 2867, 2929, 3347, 3448, 4014, 5611

Lymphogranuloma, Malignant

See “Hodgkin’s Disease / Lymphogranuloma, Malignant” under **CANCER**.

Pemphigus

Rare autoimmune disorder. Symptoms include blisters in the outer layers of the skin and the mucous membranes of the nose, mouth, and throat. Also see **AUTOIMMUNE DISORDERS** as well as more frequencies for the affected area of the body.

893 (from Dr. John Garvey), 665, 694

Scarlet Fever

Airborne infection from the bacterium *Streptococcus pyogenes*, usually contracted by children. Symptoms include rash, sore throat, flushed face, abdominal pain, chills, head and muscle aches, and a thick white coating on the tongue that peels after several days, giving a strawberry-like appearance. The child may not feel ill, but sometimes untreated scarlet fever can cause heart or kidney damage.

First try: 437, 660 + 690 + 727, 784, sweep 875–885, 2K, 10K

Then try: 20, 465, 787, 880

Spleen, Enlarged, and other Conditions

The spleen, a bean-shaped organ positioned beneath the left breast at an angle, contains the largest mass of lymph tissue in the body, covered by connective and smooth muscle tissue. It is connected to the rest of the lymphatic system by lymph vessels. Unlike the lymph vessels, the spleen does not carry lymphatic fluid; and unlike the lymph nodes, the spleen does not filter or clean lymph. Instead, it produces what eventually turn into antibody-producing blood plasma cells. Antibodies, a basic aspect of the body’s immune function, are the biochemical agents against specific microbial or foreign antagonists in the body. The spleen also breaks down bacteria and worn-out or damaged blood cells, and creates new blood cells. 20, 27.44, 35, 465, 660 + 690 + 727, 787, 802 + 1550, 880, 1800, 2170, 2720, 3176, 10K

Strep Throat

Infection from the bacterium *Streptococcus pyogenes* and other microbes. Symptoms include skin inflammation, sore throat, and sores filled with pus (dead white blood cells).

20, 465, 660 + 690 + 727, 784, 787, 875 to 885, 880, 2K, 10K

Tickle, Chronic

120, 660 + 690 + 727, 766, 776, 787, 800, 880, 1560, 1840, 1998

Tonsillitis

See “Glands, Swollen” in this **RESPIRATORY TRACT, Throat and Lymph Nodes** section.

Trench Mouth

Bacterial infection of tonsils and floor of the mouth. Symptoms include inflammation, ulceration, and painful swelling. Also see more entries in this section and under **DENTAL, Mouth and Gums**.

20, 465, 600 + 625 + 650, 660 + 690 + 727, 726, 776, 787, 802 + 1550, 880, 1556

Vocal Cords

The vocal cords (also known as the vocal folds, larynx, or voice box) consist of mucous membrane tissue in the throat attached to ligaments, cartilage, and muscle. When the muscles attached to the cords expand and contract, this changes the shape of the air passage. Air against the vocal cords produces a vibration: sound. The ways in which the folds meet determine the pitch of the sound. When the muscles pull the folds more taut, allowing them to become thinner and shorter, they vibrate more and the pitch is higher. When the muscles pull the folds less, allowing them to become thicker and longer, they vibrate less and the pitch is lower. Sound optimally resonates in the throat, in the mouth, and in the hollow sinuses of the face.

When the voice box is inflamed or infected, it's covered with an extra thick coating of mucus in an attempt to protect the delicate tissues and expel the pathogens. This mucus causes irregular gaps in the airway, which produces hoarseness. The vocal pitch is often lower due to a sore throat, but try to speak in your normal vocal range while providing plenty of abdominal breath support. This will help prevent the vocal chords from becoming more stressed. Smoking, allergies, and improper use of the voice will irritate the voice box. Also see "Glands, Swollen" under **RESPIRATORY TRACT, Throat and Lymph Nodes**.

Hiccups

Spasm of the vocal cords and diaphragm, producing a sharp intake of breath and a coughing noise. May also be symptomatic of other conditions.

20, 10K, 40K (for as long as desired)

Laryngitis or Hoarseness

660 + 690 + 727, 760, 880

Larynx Cancer

See under **CANCER**.

Larynx Infection and Pain

1.2 + 250, 3 + 230, 7.69, 7.7, 9.39, 9.4, 9.6, 10, 28, 440, 444 + 1865, 465, 660 + 690 + 727, 787, 802 + 1550, 880, 2720

Larynx Polyp

Benign tumor. Sometimes tumors or nodules develop in the larynx when the voice is not used properly. Use proper breath support when you speak or sing. You are speaking in your proper range if your nasal cavities and face vibrate when you speak.

202, 765

End of Respiratory Tract section.

RESTLESSNESS

See "Akathisia / Agitation" under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

RETROVIRUSES

See under **VIRUSES**.

RHABDOMYOSARCOMA, GENERAL AND EMBRYONAL

See all types under **CANCER**.

RHEUMATIC FEVER

See under **HEART, BLOOD AND CIRCULATION**.

RHEUMATISM

See under **ARTHRITIS**.

RHEUMATOID ARTHRITIS

See under **ARTHRITIS**.

RHINITIS

See under **RESPIRATORY TRACT, Nose and Sinuses**.

RHINOVIRUS

See under **VIRUSES**.

RHIZOPUS NIGRICANS OR RHIZOPUS STOLONIFER

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

RHODO TORULA

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

RHODOCOCCUS EQUI

See under **BACTERIA**.

RIB PAIN

See under **INJURIES**.

RIB PAIN IN MUSCULATURE

See "Neuralgia, Intercostal" under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

RICKETTSIA RICKETTSII

See under **BACTERIA**.

RINGING IN EARS

See "Tinnitus" under **EARS**.

RINGWORM

See under **SKIN**.

RNA, TO STRENGTHEN INTEGRITY OF

See many entries under **REGENERATION AND HEALING**.

ROCKY MOUNTAIN SPOTTED FEVER

See "*Rickettsia rickettsii* / Rocky Mountain Spotted Fever" under **BACTERIA**.

ROPEWORM

See "*Funis vermis* / *Homo Funis vermis* / Ropeworm" under **PARASITES, PROTOZOA AND WORMS**.

ROSACEA

See under **SKIN**.

ROTIFER

See under **PARASITES, PROTOZOA AND WORMS**.

ROUNDWORM

See "*Ascaris lumbricoides* / Roundworm" under **PARASITES, PROTOZOA AND WORMS**.

ROYAL RIFE'S FREQUENCIES

These frequencies are believed to have come from Royal Rife's #4 machine. However, running the same frequencies on modern equipment may produce different results. There are some good reasons for this.

Rife's equipment had calibration issues and frequency drift. This means that although Rife used state-of-the-art components for his time, measurements couldn't be as precise as those available today. Also, one or more pathogen may have mutated (even slightly) since the scientist's time. Finally, Rife's surviving laboratory notes have sometimes been difficult for modern researchers to decipher.

Why did Rife study some pathogens and not others? He viewed filter passing viruses and smaller bacteria. This entailed using a filter of diatomaceous earth or porcelain, which allowed very small microorganisms to pass through it, while larger bacteria, parasites and worms could not pass through it. Thus, the microbes that Rife surveyed were, by definition, limited. If the scientist had access to our modern equipment, his research would have been more advanced. He undoubtedly would have discovered frequencies for other pathogens, including genetically engineered *Mycoplasma*.

Keep in mind that the frequencies discovered by Royal Rife are a starting point only! Contemporary names of pathogens are listed first, followed by Rife's terminology.

As always, if you know the microorganism that's infecting you and the available frequencies are not helping, go to dna-frequencies.com. Charlene Boehm offers, for a very reasonable fee, frequencies derived via a mathematical formula based on scientific measurements of portions of pathogen anatomy (see Chapter 4 for more information).

***Actinomyces bovis* / Actinomycosis / Streptothrix**
192K

***Bacillus anthracis* / Anthrax**
139200

BX or Bacillus X Virus (filter passing)
12,830K

***Clostridium tetani* / Bacillus tetani / Tetanus**
234K

***E. coli* / B. coli (filter passing)**
770K

***E. coli* / B. coli (rod form)**
417K

***Mycobacterium tuberculosis* / Bacillus tuberculosis (rod form)**
369K

***Neisseria gonorrhoeae* / Gonococcus**
233K

***Salmonella typhi* / Typhoid (filter passing)**
1445K

***Salmonella typhi* / Typhoid (rod form)**
760K

Staphylococcus albus
478K

***Streptococcus pneumoniae* / Diplococcus pneumoniae**
427K

Streptococcus pyogenes
720K

***Treponema pallidum* / Syphilis**
789K

RSD

See "Reflex Sympathetic Dystrophy (RSD)" under **MUSCLES** or **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

RUBELLA

See under **VIRUSES**.

RUBEOLA

See under **VIRUSES**.

RUBULAVIRUS

See under **VIRUSES**.

-S-

SALIVARY GLAND VIRUS

See "*Herpes Virus Type 5* (Human *Herpes* Type 5) / Cytomegalovirus (CMV) / Salivary Gland Virus" under **VIRUSES, Herpes, all types**.

SALMONELLA, ALL TYPES

See under **BACTERIA**.

SARCOMA

See under **CANCER**.

SARS / SEVERE ACUTE RESPIRATORY SYNDROME

See "*Coronavirus* / SARS / Severe Acute Respiratory Syndrome" under **VIRUSES**.

SCABIES

See "Mange / Follicular Mange / Scabies" under **SKIN**.

SCARLET FEVER

See "*Streptococcus pyogenes* / Scarlet Fever" under **BACTERIA**.

SCARRING

See "Adhesion / Scar" under **SKIN**.

SCHISTOSOMA, ALL TYPES

See under **PARASITES, PROTOZOA AND WORMS**.

SCHUMANN RESONANCES

The beneficial frequencies of the Earth's magnetic field are known as the Schumann Resonances, named after Professor Winfried Otto Schumann of the Technical University of Munich, who calculated them in the 1950s. Approximately fifty lightning flashes bombard the Earth every second, creating an electromagnetic wave of charged particles between the Earth's surface and about 60 miles up.

For hundreds of thousands of years, humans and animals evolved to this "repeating heartbeat" of energy flashes. Our brainwave frequencies, as well as the timing of many other biological functions, are integrally tied to the rhythms of the Earth. It's now understood that the Schumann Resonances are essential for proper DNA signaling as well as for many metabolic processes.

The lowest and most intense of these resonant frequencies occurs at about 7.83 Hz, but there are higher beneficial peaks too, spaced at approximately 6.5 Hz intervals: 14.3 Hz, 20.8 Hz, 27.3 Hz, and 33.8 Hz. These frequency peaks, although affected somewhat by various atmospheric and solar phenomena, remain relatively stable.

Before 1900, the primary electromagnetic (EM) field in the environment was the magnetic field of the Earth. However, in today's electropolluted world, continual bombardment by abnormally high, competing, concentrated electrical stimulation—from high voltage power lines to WiFi—interfere with the body's ability to tap into, and be nourished by, the natural frequencies of Earth.

The Schumann Resonances can be delivered via an electrode device, but the direct benefits will last for only as long as the subject is holding on to the electrodes. The Earth's natural Schumann frequencies are magnetic in nature, so it's unclear how much benefit a radiant plasma unit can provide. However, if you do decide to experiment with a plasma unit to emit these Resonances, choose one without an RF carrier because the RF will interfere with the frequencies.

The non-contact VitaSet Generator (VSG) from Pulsed Technologies is specially designed to emit the Schumann resonances. Its operation is based on magnetism rather than electrical current. With the power on, it can cover the area of a good sized house. See Appendices A and C for that and other EMF-protection items.

7.83, 14.3, 20.8, 27.3, 33.8

SCIATICA

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS.**

SCLERODERMA

See under **SKIN.**

SCLEROSIS

See "Amyotrophic Lateral Sclerosis (ALS)" and "Multiple Sclerosis (MS)" under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS.**

SEATWORM

See "*Enterobius vermicularis* / Pinworm / Seatworm" under **PARASITES, PROTOZOA AND WORMS**; or under **GASTROINTESTINAL TRACT, *Small Intestine*.**

SEIZURE

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS.**

SEMINAL VESICULITIS

See under **MEN, *Testicles*.**

SENSITIVITY TO ELECTRICITY, TO REDUCE

Ironically, the emanations from the unit you are using might prevail before the frequencies can take effect. Monitor your response carefully and stop the session if you don't feel right. 657, and especially 40K (run for as long as you want)

SERUM SICKNESS / ANAPHYLAXIS / PROTEIN SENSITIZATION

A hypersensitive state of the body to a foreign protein or a drug, severe enough to produce shock. Also see **CHEMICAL SENSITIVITY / POISONING** and **PRIONS / AMYLOIDOSIS.** 10K, 40K

SEX GLAND FEVER

See under **MEN, *Penis*** or **WOMEN, *Uterus, Cervix, Ovaries and Fallopian Tubes*.**

SHIGELLA

See under **BACTERIA.**

SHIN BONE FEVER

See "*Bartonella quintana* / Febris wolhynia / Wolhynia Fever / Trench Fever / Quintan Fever / Shin Bone Fever" under **BACTERIA.**

SHINGLES

See under **SKIN**, under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**, or see "*Herpes Virus Type 3 / Herpes zoster / Chicken Pox / Varicella / Shingles*" under **VIRUSES, *Herpes*, all types.**

SHOULDER, FROZEN

See under **INJURIES.**

SICKLE CELL ANEMIA

See "Anemia, Sickle Cell" under **HEART, BLOOD AND CIRCULATION.**

SIMIAN VIRUS 40 (SV40)

See under **VIRUSES.**

SINUSITIS

See under **RESPIRATORY TRACT, *Nose and Sinuses*.**

SJÖGREN'S SYNDROME

A systemic autoimmune condition involving the moisture-producing glands of the body and sometimes the connective tissue. Sjögren's can affect anyone at any age, although people tend to develop it when they are in their 40s. Named after the doctor who identified it in 1933, Sjögren's affects about ten times as many women than men. It takes an average of three years to diagnose the condition because its symptoms are so diverse. Symptoms may worsen, or (less frequently) disappear. The most common symptoms include excessive dryness in the eyes, mouth, nose, skin, and vagina. Many people also feel chronic exhaustion and pain in the joints and muscles. This condition may affect any organ or gland, causing myriad other symptoms. Other autoimmune conditions may co-exist. Establishment medicine doesn't have a cure; doctors can only suggest artificial tears to wet the eyes, frequent sips of water to wet the mouth and throat, and medications to reduce inflammation.

Research suggests that many Sjögren's sufferers lack the ability to convert dietary oils to a more basic one, gamma linoleic acid (GLA). It can be helpful to supplement with GLA in the form of evening primrose oil or borage oil; collagen in capsules; and glycine, an amino acid that the body often cannot produce in sufficient amounts. Holistic approaches also include bone broth (high in glycine).

Research published in 2017 found that this condition is often triggered by a non-tuberculous mycobacterial (NTM) infection, especially in women age 40–65. (Mycobacteria are not *Mycoplasma*. Whereas mycobacteria species possess a thick, protective, waxy cell wall, *Mycoplasma* don't contain any cell wall.) Tap water is considered the major breeding ground for the most common NTMs: *Mycobacterium gordonae*, *Mycobacterium kansasii*, *Mycobacterium xenopi*, *Mycobacterium simiae*, and *Mycobacterium mucogenicum*. Dr. Richard Loyd discovered *Mycobacterium avium* and *Mycobacterium intracellulare* in many Sjögren's sufferers. He also found that RSV (Respiratory Syncytial Virus), *Cytomegalovirus*, *Staph aureus*, *Candida albicans*, and *Klebsiella pneumoniae* could be involved. However, as this condition can be triggered by any pathogen, pay attention to all possible infectious exposures. Also see **AUTOIMMUNE DISORDERS**. The frequencies below are experimental.

From Dr. Richard Loyd: 529.3, 590, 608.4, 615.7, 617.8, 619.7, 625.9, 632.2, 642.2, 674.3, 680.4, 680.8, 694.1, 700.9, 769.6, 770.6, 773.3, 786.7, 803.4, 818.5, 825, 825.7, 826, 827, 828, 829, 830, 857.6, 858.2, 860.2, 896.9, 937.4, 953.6, 1001.2, 1148.3, 1058.6, 1037.5, 1180, 1235.7, 1552, 2075, 2117.1, 2471.3, 6784.375

Also try: 1950, 6800, 23750, 26710, 28750, 31K, 33K, 33325, 36737, 39167

SKELETAL PROBLEMS

See **BONE AND SKELETON**.

SKIN

Any organ performs multiple tasks based on messages sent to and received from other parts of the body. The skin—with its pain, temperature, and other receptors to and from the brain—is the largest organ in the body. Unlike internal organs (heart, liver, kidneys, etc.) whose tissues are in clusters, the skin's tightly packed cells spread out like a thin blanket. The nervous system and skin evolved from the same embryonic tissue, so the skin is rightly regarded as a huge nervous system on the outside of the body. The skin weighs about six pounds and averages about 20 square feet in area. It contains nerve endings, blood vessels, pigments, hair follicles, oil glands, sweat glands, and keratin-containing cells that waterproof the body and prevent bacteria from entering. Normal skin is supple, clear, smooth, and able to withstand a fair amount of mechanical stress.

The skin is our front line of protection, interfacing between the body and its environment. Skin is porous: small molecules can seep into the bloodstream, so what's rubbed on the skin or scalp should be safe enough to eat. Too much internal waste can exit through the skin, manifesting as pimples, rashes, boils, or other debris. Skin issues that aren't easily eliminated almost always indicate an underlying condition such as an overwhelmed or underperforming liver; so also see frequencies under **LIVER AND GALLBLADDER**, *Liver*.

Normally, the skin eliminates 10% of the body's water and waste. However, through sweating from exercise or a sauna, up to 30% of all waste can be excreted. Thus, the skin is sometimes called "the third kidney." See Chapter 3, **Sauna Therapy** and my book, *The Holistic Handbook of Sauna Therapy*.

General

311, 345, 414, 454, 465, 644, 752, 765, 766, 784, 923

Acne

Skin eruptions due to pores clogged with bacteria, sebum (oil), and often pus (accumulated dead white blood cells). FBI intelligence specialist Melissa Gallico, analyzing decades of cross-cultural data, makes a compelling point that fluoride is the major cause, and that fake foods, sugar and unbalanced hormones (most intense during puberty in males and females) are secondary exacerbating factors.³² Replenish the body's iodine stores. The liver is stressed with its detox job; so also see **LIVER AND GALLBLADDER**, *Liver*.

First try: 368 (from Dr. Richard Loyd), 262 (or its higher octave 67072), 428, 444 + 1865, 450, 465, 564, 660 + 690 + 727, 760, 778, 787 (or its higher octave 100736), 880

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 383750 (lowest), 387K (optimal), and 389K (highest)

Hz set: 951.22 (lowest), 959.28 (optimal), and 964.23 (highest)

Also from Clark: 19267.60, 959.28

Caring for Your Skin

Most skin care products cause the very problems they are presumably created to prevent, because they contain poor quality and chemically synthesized ingredients. These inappropriate substances include sodium laurel sulfate compounds; glycols; artificial dyes, perfumes and preservatives; and even solvents and alcohols. Many of these substances are not only irritants, they're also carcinogenic. The simplest and purest ingredients are the most effective. You can mix your own blends from some of the following. (Please note, this list is only a guide to get you started.)

- ◆ **Shea, Cocoa, and Mango Butters.** Bases to which lighter oils and other ingredients can be added for moisturizing creams.
- ◆ **Oils of Almond, Apricot, Argan, Avocado, Coconut, Grapeseed, Jojoba, light (not virgin) Olive, Rose Hip Seed, Sesame.** Add to thicker butters for moisturizing. Also use as carrier oils for essential oils. Coconut is excellent for both external and internal use on mucous membranes, as it's antimicrobial.
- ◆ **Essential Oils, All Skin Types.** Bergamot, Carrot Seed, Lavender, Orange, Patchouli, Rose.
- ◆ **Essential Oils, Dry Skin.** Chamomile, Cedarwood, Geranium, Lavender, Myrrh, Palmarosa, Rose, Sandalwood.
- ◆ **Essential Oils, Oily Skin.** Bergamot, Cypress, Geranium, Lemon, Lime, Orange.
- ◆ **Essential Oils, Blemishes and Acne.** Geranium, Lavender, Neroli, Patchouli, Rose, Rose Hip Seed, Tea Tree, Vetiver.
- ◆ **Essential Oils, Aging Skin.** Cypress, Frankincense, Lavender, Myrrh, Neroli, Patchouli, Palmarosa, Rose, Sandalwood, Tangerine, Ylang Ylang.
- ◆ **Vitamin E.** A natural preservative in skin creams, it helps prevent scarring when used alone. Break open a capsule and apply liberally to affected area. Works best when used immediately after the area is wounded.
- ◆ **Castor Oil.** Eliminates scars and wrinkles, helps heal wounds, and is even germicidal.
- ◆ **Aloe Vera.** Can tighten sagging skin and help prevent wrinkles. Also helps heal rashes, blisters, burns, and cuts.
- ◆ **Clay.** For rashes, blisters and cuts, and even open sores and wounds. Make a poultice. (For detailed instructions, see Chapter 3, **Activated Charcoal, Clay, and Castor Oil.**)

See Appendices F and G for a list of toxins and safe substitutes for cleaning and personal care items.

Acupuncture Energy Field Disturbance (from scars)

Damaged tissue fibers, which create lumps, can be due to surgery, injury, overuse of muscles, or chronic tension. Internal and external scars can interfere with blood and oxygen flow, as well as the flow of energy in the meridians at the location of the scar. Because scar tissue is irregularly patterned, it can pull on adjacent tissue and cause pain. It's wise to get rid of scars if possible. Neural therapy can reestablish the energy channels blocked by scarring. Also see "Adhesion / Scar" in this section.

5.9, 18, 19.2

Adhesion / Scar

An adhesion or scar is internal or external abnormally fibrous tissue (comprised of the same proteins as collagen) that forms due to injury and sometimes inflammation or infection. Adhesion fibers are aligned in a single direction—making the area lumpy, discolored, painful or itchy—with minimal tissue function. Scars can interfere with blood and oxygen flow, and energy flow in the meridians.

For external skin scars, you can break down abnormal fibers and heal the tissue by massaging the area with castor oil at least twice a day. The homeopathic remedy *Thiosinaminum* 30C (mustard seed oil) is taken three times a day for several months for scars and even fibroids. Also try a 635–660 nm (red wavelength) LED over the area with an essential oil blend of sandalwood, lavender, frankincense, and myrrh. The LED and essential oils may not physically reduce the adhesions, but they may energetically break its negative effect on the meridians.

For new scars that are still open wounds, keep the area wet with colloidal silver or liquid Vitamin E (break open a capsule). Cover with gauze and repeat several times daily. Either or both will heal the skin.

If you suspect that you have an infection, try the frequencies for the pathogen involved, including "*Staphylococcus pyogenes aureus*" under **BACTERIA**. This and other pathogens may cause the body to produce scarring in an effort to contain the bacterium.

19.2, 190, 465, 600 + 625 + 650, 660 + 690 + 727, 685, 700, 760, 776, 787, 802 + 1550, 832, 880, 1K, 1500, 2170, 2720

Anthrax

Often fatal disease characterized by sores on skin filled with pus (accumulated dead white blood cells). See "*Bacillus anthracis* / Anthrax" under **BACTERIA**.

Athlete's Foot

Itching, inflammation, flaking, and sometimes burning of skin on the foot. Commonly (but not solely) caused by *Epidermophyton floccosum*, a fungus that attacks the feet, skin, nails, and sometimes groin (where it is called jock itch). The fungi that attack the skin are often interchangeable and do not confine themselves to any one area. Also see the various *Trichophyton*, *Microsporon* and

Microsporium entries, as well as “General Fungus / Molds / Yeasts,” under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

644, 766 (both from Dr. John Garvey), 856 (from Dr. Richard Loyd), 20, 345, 465, 634, 660 + 690 + 727, 784, 802 + 1550, 880

Bedsore

Ulceration and decay in the skin due to constant pressure and lack of circulation and air, usually from staying in bed in a fixed position over a period of time.

1.1 + 73, 1.2 + 250, 20, 465, 660 + 690 + 727, 784, 787, 802 + 1550, 880

Blackhead

In a pore, a plug made from a combination of sebum (oil) and bacteria that is partially exposed and dark in color. Also see “Acne” in this section.

778

Blister

Fluid beneath the skin encased in a sac, due to a burn or friction.

465, 660 + 690 + 727, 787, 880, 10K

Boil

Inflammation at the skin due to severe local infection. According to one naturopath, boils are often caused by one or more of the *Staphylococci* bacteria, whose frequencies are included among the others below. Also see “Furunculosis *Herpes*” in this section.

6.8, 48, 60 + 100, 333 + 523 + 768 + 786, 465, 590, 660 + 690 + 727, 802 + 1550, 787, 880

Bruise / Contusion

Pain, swelling, and discoloration of unbroken skin. A popular remedy in both cream and homeopathic forms is *Arnica*, which is often combined with other remedies in low doses. Also see **INJURIES**, and the Insert, “Supplemental Therapies for Injuries,” on page 751.

9.1, 110, 2720, 10K, 40K (for as long as desired)

Burns, Most Types, including from Radiation

190, 200, 465, 660 + 690 + 727, 787, 880, 10K

Capillary Congestion and Bruising

See “Capillaries, to Stimulate Healing of” under **HEART, BLOOD AND CIRCULATION**.

Carbuncle

Inflammation of the skin accompanied by pus, which is dead white blood cells in tissue liquefied by microbes. See “Boil” in this section and in **BACTERIA**, “*Staphylococcus pyogenes aureus*.” Also see **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*Candida albicans*,” as people who suffer from *Candida* overgrowth often have boils and carbuncles.

Cellulitis

See **CELLULITIS**.

Contusion

See “Bruise / Contusion” in this section.

Cuts, to Speed Healing

Don’t use electrodes directly on cuts. The fluid contained in an open wound, and even the seemingly negligible amount in a scab, will conduct enough electric current to cause discomfort or pain. Also see “Adhesion / Scar” in this section.

20, 60, 72, 95, 125, 660 + 690 + 727, 740, 787, 790, 880, 5K, 10K, 40K (for as long as desired)

Cyst, Sebaceous

A closed sac just under the skin, containing cheesy-looking skin secretions, usually caused by swollen hair follicles. Mostly appearing on the face, neck and trunk, a sebaceous cyst is generally slow-growing, painless, and easily moved beneath the skin. Occasionally it will become inflamed and tender.

75, 76, 543

Dematium nigrum

Soil fungus found in wounds, often appearing as an infected patch of skin.

243, 738

Dermatitis / Eczema

Skin inflammation with itching and burning. According to some sources, if conditions such as eczema are suppressed with steroid creams—instead of being properly eliminated by natural means—the eczema can gravitate to the lungs and manifest later as asthma.

9.19, 9.2, 9.39, 9.4, 20, 120, 415, 660 + 690 + 727, 664, 707, 770, 787, 802 + 1550, 2180, 916, 2127.5, 2720, 5K, 10K, 40K (for as long as desired)

Elephantiasis

Abnormal skin cells due to obstruction in lymph and blood circulation, caused by an infestation of a certain type of *Filaria* worm. Also see **PARASITES, PROTOZOA AND WORMS**, “*Ascaris lumbricoides* / Roundworm.”

112, 120, 623, 710, 824, 865

Erysipelas

Skin inflammation caused by *Streptococcus pyogenes* and other pathogens.

20, 465, 616, 660 + 690 + 727, 735, 776, 787, 845, 880, 2K, 10K, 40K (for as long as desired)

Erythema

See under **HEART, BLOOD AND CIRCULATION**.

Erythrasma

Red blotchy rash, often in folds of skin due to heat.
From Dr. Richard Loyd: 488

Facial Toning

Intended to tighten the skin and lessen wrinkles. An electrode or hand-held bulb unit would be more effective than a freestanding radiant plasma unit. Specially designed electromedical devices made specifically for the face may work even better. Such units use the tiniest amounts of electrical current to restore skin tissue on the face.

1.2 + 250

Feet, Excessive Sweating / Sudor Pedis

148

Fibrosarcoma

See under **CANCER**.

Fissure

Grooved or furrowed sore, like a slit, either on the skin or mucous membranes.

20, 787, 10K, 40K (for as long as desired)

Folliculitis

Tiny pimples. Also see "Acne" in this skin section.

174, 482, 5311

Furunculosis Herpes, including boils

Also see **VIRUSES, Herpes, all types**.

20, 116, 200, 465, 660 + 690 + 727, 770, 802 + 1550, 787, 1K, 2K

Hives / Urticaria

Skin eruptions, usually due to allergies to foods and sometimes extreme changes in temperature. Pay attention to your diet and exposure to chemicals.

4.9, 6.3 + 148, 95, 125, 146, 444 + 1865, 522, 660 + 690 + 727, 787, 880, 1800

Jock Itch

Peeling skin, irritation and itching in the groin and genitals caused by *Epidermophyton floccosum*, a fungus that attacks skin, nails, and also the feet (where it is called athlete's foot). The fungi that attack the skin are often interchangeable and do not confine themselves to one area, so also see, under **CANDIDA, FUNGI, MOLDS AND YEASTS**, the various *Trichophyton*, *Microsporon* and *Microsporum* entries, "General Fungus / Molds / Yeasts," and "*Candida albicans*."

644, 766 (both from Dr. John Garvey), 856 (from Dr. Richard Loyd), 20, 345, 465, 634, 660 + 690 + 727, 784, 802 + 1550, 880

Keratosis Pilaris

Sometimes called "chicken skin," with this disorder the openings of the hair follicles become clogged with excess keratin. Keratin is the tough, insoluble protein comprising hair, nails, horns, and hooves. The horny wads of keratin are small and pointed, which causes the skin to itch and become red. In some cases, pus forms around the sweat glands. Keratosis pilaris occurs when skin cells—which should flake off as a fine dust during the normal course of shedding to make room for new skin—remain stuck in the follicular orifices. The keratin plug cannot be ejected with pressure. Sometimes hair is found coiled up within the keratin.

Appearance can range from small bumps with the consistency of sandpaper to more serious lesions that look like acne. Lesions are generally numerous, similar to each other, and evenly spaced apart. The keratinization may appear on the upper arms, buttocks, thighs, and occasionally the face. Sometimes the pores become infected due to scratching or abrasive tight-fitting clothes. The condition is said to worsen during cold dry weather and improve during warm humid weather. The majority of people who get this condition are females during puberty, although people who smoke and drink alcohol are also at risk. (The burden of toxins from tobacco and alcohol indicates liver toxicity.)

Allopathic treatment often involves moistening lotions and topical steroid creams, but these are often ineffective at providing even temporary relief and they might be detrimental over time. Also, they don't address the root cause of the condition. However, natural medicine offers some solutions. The first involves healing the gut, because faulty digestion can manifest in skin disorders. Eliminate gluten, dairy, and other allergenic foods. Supplement daily with probiotics. An improperly functioning liver can cause skin conditions, so do a liver-gallbladder cleanse.

For topical relief and healing of the skin, the skin must be exfoliated, or gently scrubbed so dead material is removed from its surface. Pathogens must be eliminated so the skin doesn't become infected. And the dry skin must be moisturized.

Many of the following ingredients have multiple functions. Some people are irritated by what others find soothing, so experiment with combinations. For an exfoliation paste, try baking soda and finely ground sea salt in a little water, perhaps with antibacterial Manuka honey. Coconut oil possesses germicidal, anti-inflammatory, and moisturizing properties. Gently scrub the skin with what you find soothing, rinse, and repeat. Vitamin A contains natural retinol, which encourages cell turnover and helps prevent the hair follicles from clogging. Some people simply squeeze the oil from several capsules onto the affected areas and gently massage it in. (The liver has a high Vitamin A requirement.) Some people find relief from Vitamin E, dribbled onto the skin in a similar way.

These last ingredients are not only germicidal but astringent, contracting tissues and thus diminishing discharges: raw apple cider vinegar (available in most health food stores and even supermarkets) and citrus oils. Essential oils of lemon, grapefruit, or orange can also be helpful. In lieu of essential oils, you can boil the chopped rinds of these citrus fruits in water for about 10 minutes. Strain, and refrigerate the yellowish liquid in an airtight jar, applying with cotton as needed. The essential oils should also be refrigerated to keep them fresh.

See frequencies for other entries in this section. Also see entries under **CANDIDA, FUNGI, MOLDS AND YEASTS** if there is a fungal component to this condition. Make sure to address applicable entries under **LIVER AND GALLBLADDER, Liver**. If this condition persists, see **AUTOIMMUNE DISORDERS**.

Leukoderma / Vitiligo

Deficiency of pigmentation of the skin. White blotches appear, usually covering small areas of the skin but slowly become larger over time. There is some evidence that this is an autoimmune condition in which the body destroys its own pigment cells, or melanocytes (so called because they are comprised of melanin). Causes can include impeded circulation, and physical and emotional stresses (with resulting hormonal imbalances). There might be other autoimmune diseases in the family, along with diabetes, hair loss, hypothyroidism, and possibly even cancer.

Internally, take B-complex vitamins (including PABA, part of the B-complex). Use PABA cream externally. See **BACTERIA**, “*E. coli* / *Escherichia coli*”; **PARASITES, PROTOZOA AND WORMS**, “General (unspecified)”; applicable frequencies under **LIVER AND GALLBLADDER, Liver**; various entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**; and **AUTOIMMUNE DISORDERS**. Also see **BACTERIA**, “*Mycoplasma*, many types,” as this infection is often the beginning of autoimmune conditions.

20, 440, 444 + 1865, 600 + 625 + 650, 660 + 690 + 727, 787, 880, 2112

Lipoma

Fatty tumor, usually benign and in clusters, often just beneath the skin. It is not known exactly what causes lipomas, but improper fat metabolism and liver dysfunction are thought to be involved. Also see “Liver Cancer” and other entries under **CANCER** in case the tumors become malignant; as well as various entries under **LIVER AND GALLBLADDER, Liver**.

47 (for 5 minutes), 606 (for 5 minutes), 709 (for 5 minutes). Also sweep 2K–2200; or do 2K–2200 in increments of 5 Hz, staying on each number for 30 seconds to 1 minute

Mange / Follicular Mange / Scabies

A contagious dermatitis, caused by mites, which primarily reside in the hair follicles. This primarily affects mammals.

From Jimmie Holman. The research team of Pulsed Technologies emphasizes that the frequencies be delivered in precisely the order written, and that they might not work on units other than those manufactured by Pulsed Technologies: 64260, 60720, 59784, 55860, 55272, 49500, 45540, 49500, 44100, 43900, 40480, 40194, 38220, 37840, 37444, 35192, 31878

Also try: 253 and 693 (for 10 minutes, from Dr. John Garvey), 90 to 110, 701, 774, 920, 1436, 2871, 5742

From Dr. Hulda Clark: 735K or 1821.88 (for units unable to reach the KHz range)

Melanoma metastasis

See under **CANCER**.

Mole

Raised benign tissue on skin, usually dark. A mole can grow due to a systemic overgrowth of *Candida albicans*, so also see this and the many other entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

20, 120, 177, 464, 600 + 625 + 650, 626, 659, 660 + 690 + 727, 784, 880

Mycosis Fungoides

See under **CANCER**.

Pemphigus

Rare autoimmune disorder. Symptoms include blisters in the outer layers of the skin and in the mucous membranes of the nose, mouth, and throat. Also see autoimmune disorders, and entries for the affected area of the body.

893 (from Dr. John Garvey), 665, 694

Pigmentation Deficiency

See “Leukoderma / Vitiligo” in this section.

Pimples

See “Acne” in this section.

Psoriasis

Chronic inflammation characterized by scaly red patches covered with white scales. Although the symptoms appear on the skin, psoriasis might be more accurately regarded as an autoimmune condition because the T cells (white blood cells involved in immune function) mistakenly attack healthy skin cells. The overactivity of the T cells cascades into other bodily responses that causes skin cells to grow too quickly and move to the top layer of the skin in days rather than weeks. Dead skin accumulates on the surface more quickly than the body can remove it; hence, thick, itchy scales form. The skin can become so cracked that it bleeds. Up to 30% of people with psoriasis develop severe joint damage, and are also more prone to eye problems, diabetes, and heart disease.

This condition requires long-term treatment. Some practitioners recommend Vitamin D3, which helps modulate immune response, regulate the growth and differentiation of skin cells, and influence the activity of immune cells. Except for areas near the equator, being outside generally doesn't provide enough sun to allow the skin to make its own Vitamin D. Therefore, the vitamin is taken in supplement form. People with serious conditions should have their Vitamin D levels tested, because too high amounts can be toxic. However, for most people who need immune support, a safe substance to take in any amount is colostrum. Some people who are highly intolerant of dairy cannot handle colostrum, but they can take the concentrated immune support molecules, transfer factors.

Also see, under **CANDIDA, FUNGI, MOLDS AND YEASTS**, "*Epidermophyton floccosum* / Athlete's Foot / Jock Itch" and the various *Candida* and *Microsporum* entries.

1.2 + 250, 7.69, 7.7, 10, 28, 35, 64, 95, 96, 60 + 100, 104, 110, 112, 304, 428, 600 + 625 + 650, 660 + 690 + 727, 664, 680, 776, 786, 787, 800, 802 + 1550, 880, 1500, 1552, 2K, 2008, 2127.5, 2170, 2180, 2489, 2720, 3K

Pyoderma (or Pyodermia) Gangrenosum

Ulcerous pus-filled lesions on the skin, usually the feet or hands, sometimes caused by various trauma or injury to the skin and often occurring with other diseases such as ulcerative colitis, rheumatoid arthritis, diabetes, and hepatitis. This symptom picture usually erupts suddenly. Assess the condition of the heart, eyes, liver, central nervous system, bones, lymph nodes, gastrointestinal tract, spleen, and bones. Recurrences may sometimes occur, and residual scarring is common.

132 (from Dr. Garvey), 123, 663, 967, 974, 1489, 1556

Ringworm

Roundish red rings and flaking on the skin and sometimes the scalp, accompanied by itching, pain and soreness, caused by various microorganisms, especially fungus. The fungi that attack the skin are often interchangeable and do not confine themselves to one area. Also see "Tinea Versicolor" in this skin section and, under **CANDIDA, FUNGI, MOLDS AND YEASTS**, the various *Trichophyton*, *Microsporon*, *Microsporum*, and "General Fungus / Molds / Yeasts" entries.

***Microsporon audouini* fungus cause**

From Jimmie Holman. The research team of Pulsed Technologies emphasizes that the frequencies be delivered in precisely the order written, and that they might not work on units other than those manufactured by Pulsed Technologies:

90K, 83840, 83375, 81920, 81290, 74062.5, 68K, 65875, 65625, 62845, 61638.75, 59562.5, 57500, 52480, 51465, 51200, 48K, 47600, 47410.63, 46812.5, 45K,

41920, 41687.5, 40960, 40645, 37031.25, 34K, 32937.5, 32812.5, 31422.5, 30819.38, 29781.25, 28750, 26240, 25732.5, 25600, 24K, 23800, 23705.31, 23406.25

Also try: 285, 422, 831, 1222

***Microsporum canis* fungus cause**

Prevalent in dogs and cats as well as children.

347, 402, 600 + 625 + 650, 970, 1644

Rosacea

A chronic skin disease, mostly on the face and sometimes the eyes, afflicting about 14 million people in the US. Early stage symptoms include redness or flushing in the forehead, nose, cheeks and chin; burning; swelling and inflammation; pimples; and dilated blood vessels that show through the skin. Advanced stage symptoms include thickened skin. With eye involvement, symptoms include inflammation, redness, dryness, itching, burning, tearing, sensitivity to light, and the sensation of having sand in the eye. The nose may swell. It appears most frequently in adults with fair skin between the ages of 30 and 60. It's more common in women, particularly during menopause. Contributing factors may include low stomach acid, and deficiencies in Vitamin B12 and iron.

Aggravating factors include hot baths, intense heat, extreme cold, strenuous exercise, sunlight, wind, hot or spicy foods and drinks, alcohol, emotional stress, and long-term use of topical steroids on the face. Try parasite and kidney cleanses, a liver-gallbladder flush, colonics, or sauna therapy to ease the skin's waste disposal burden. Take protease enzymes on an empty stomach to scavenge the wastes. Apply essential oils of lavender, chamomile, sandalwood and rosehip, and use green tea compresses.

Electromedicine practitioner Dr. Jerry Tennant reports finding the *Herpes simplex* virus in every case of rosacea that he treats, so see "*Herpes simplex 1*" and "*Herpes simplex 2*" under **VIRUSES**. Some people also find success with frequencies for "*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer," under **BACTERIA**.

02, .52, .73, .83, 2.5, 217.5, 545.28, 697.5, 775.75, 875.28

Scarring

See "Adhesion / Scar" in this section.

Scleroderma

Connective tissue disorder involving hardening of the skin, blood vessels, and muscles. No frequencies are known; but avoiding nightshades may prevent tissue calcification. See Chapter 3, **Food**.

Shingles

Inflamed skin along the nerves from the *Herpes zoster* Virus 3. This condition is extremely painful, so much so that the person cannot tolerate being touched. Outbreaks

tend to occur the most during stress. Also see **VIRUSES, Herpes, all types**.

20, 26, 120, 304, 444 + 1865, 574, 660 + 690 + 727, 664, 787, 800, 802 + 1550, 816.4 (for five minutes), 880, 914, 1500, 1552, 1557, 1600, 1633, 1800, 1864, 2127.5, 2170, 2720, 3K, 3176, 3343, 5K

Skin Cancer

See under **CANCER**.

Skin Tags

Skin tags (also known as acrochordon) are bits of swollen, loose skin that grow out from normal skin. They can be flesh colored or pigmented, smooth or irregular. Some hang from a stalk. They usually appear on the eyelids, face, neck, underarms, upper chest, and groin. They're more common in older adults, and more prevalent in women than men. Doctors don't know the cause, but they remove the tags with a sharp blade, freeze or burn them at the stalk, or strangle them with a thread. Usually skin tags don't become malignant (cancerous).

Some people eliminate skin tags by taking 250 mcg (micrograms, not milligrams) of chromium picolinate twice a day. This suggests a connection to blood sugar disorders. One woman applied essential oil of cinnamon topically and after several days, the skin tag shriveled up and disappeared. Tea tree oil also works well. Another enterprising person, knowing that hydrogen peroxide stronger than a 3% solution is caustic (make sure the H₂O₂ is food grade), repeatedly applied it to the area with a cotton swab. After regular applications, the tag fell off. Some people have also had success using colloidal silver (see Chapter 3, **Colloidal Silver**). Liquid iodine treatments may also help. There are no frequencies for skin tags, but the liquids that remove the tags suggest microbial involvement. Especially because the tags have a stalk, they could be related to warts, which are virally caused. See "Wart" entries in this section.

Tinea Versicolor

A skin condition, usually on the front of the chest, caused by the fungi *Microsporon furfur* or *Malassezia furfur*. Symptoms include scaling, reddish or gray itchy patches, and dry brittle hair. Also see "Ringworm" in this section. 222, 225, 491, 616, 700

Urticaria

See "Hives / Urticaria" in this section.

Vitiligo

See "Leukoderma / Vitiligo" in this section.

Wart, most types

A rough, abnormal bump appearing on the skin and sometimes the genitalia, caused by a virus.

173, 466, 495, 644, 660 + 690 + 727, 767, 787, 797, 877, 907, 915 (for 30 minutes), 918 (for 30 minutes), 953, 1500, 1600, 1800, 2008, 2127.5, 2170, 2720, 2489

Wart, Plantar

Caused by the Human *Papilloma* Virus (HPV), a plantar wart grows on the bottom of the foot.

From Dr. Richard Loyd: 40, 320, 570, 850, 857, 874, 907, 30250, 173210, 301800, 402850, 410700, 475470, 2976935

Also try: 45, 110, 265, 404, 466, 489, 767, 1011, 1051, 5667, 9258, 9609

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 404700 (lowest), 405K (optimal), and 406750 (highest)

Hz set: 1003.15 (lowest), 1003.89 (optimal), and 1008.23 (highest)

Also from Clark: 20163.76, 20128.91, 1002.16

Wart, Venereal / Condyloma

See under **MEN, Penis** or **WOMEN, Vagina, Labia and Clitoris**.

End of Skin section.

SLEEP APNEA

People with sleep apnea stop breathing for 10 to 30 seconds at a time during sleep, up to 400 times every night. This interrupts the normal sleep pattern (sometimes they wake up). Continual sleep deprivation, along with the lack of deep, dream-filled, rapid eye movement (REM) sleep, can lead to cardiovascular problems, memory loss, depression, weight gain, and headaches.

Conventional doctors often attribute sleep apnea to a failure of the brain to signal the muscles to breathe. Their common treatment is a compressed-air machine that attaches to a mask worn by the sleeper, designed to keep the airways open with pressure. However, the machine is noisy, and many users find the masks uncomfortable. A simpler aid that might work, and which doesn't require a prescription or doctor visits, is a rubberized mouth guard that fits over the top and bottom teeth at night. It keeps the airways free and prevents snoring. Just one brand is Z Quiet®. Some people simply tape their mouth shut at night.

Many factors are involved in sleep apnea. Check for spine subluxation if the head is pushed unnaturally forward, choking the air supply. (When standing, a person's ear should be positioned directly above the shoulder. Many people's heads are too far forward.) Overweight may cause the soft tissue in the rear of the throat to collapse and block the air passages. (If overweight, check thyroid function.) Exercise will help improve respiratory tract efficiency. Infections and allergens might be involved. A neurological cause may involve the vagus, trigeminal and/or phrenic nerves. The throat muscles should be manipulated and exercised.

Nitric oxide, often deficient in sleep apnea sufferers, dilates blood vessels and encourages increased oxygen flow. It's available as a nutritional supplement. Other supplements (citrulline and arginine) provide the precursors for the body to make its own nitric oxide.

0.2, 0.5, 1.5, 15, 2.5, 5.8, 7.83, 10, 20, 35, 40, 80, 125, 150, 160, 240, 250, 320, 528, 635, 662, 763, 2720, 6K, 40K (for as long as desired)

SLEEPING SICKNESS

See "*Trypanosoma brucei gambiense* / African trypanosomiasis / Sleeping Sickness" under **PARASITES, PROTOZOA AND WORMS**.

SLIPPED DISC

See "Disc, Slipped / Spine, Misaligned" under **INJURIES**.

SMALLPOX

See "*Variola* / Smallpox" under **VIRUSES**.

SMEGMA

See under **MEN**, *Penis* or **WOMEN**, *Vagina, Labia and Clitoris*.

SMELL, LOSS OF

See under **RESPIRATORY TRACT**, *Nose and Sinuses*.

SMUTS, MANY TYPES

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

SNAIL FEVER

See "*Schistosoma* / Schistosomiasis / Snail Fever" under **PARASITES, PROTOZOA AND WORMS**.

SNAKEBITES

Common poisonous snakes in the US include the rattlesnake, copperhead, cobra, coral, and cottonmouth (water moccasin). Snakes generally avoid people unless they feel provoked.

If someone has been bitten, keep them still. Don't massage the bite area or raise the area above heart level, and don't give them food or drink. Monitor vital signs such as temperature, pulse, and breathing rate. If the person becomes pale, this may indicate shock; so lie them flat, raise their feet about 12 inches, and cover them with a blanket or coat. Immediate medical treatment is needed, especially if the area surrounding the bite is painful or begins to swell and change color—indicating that the snake was venomous and tissue damage is occurring. Symptoms of snakebite poisoning include blurred vision; difficulty breathing, swallowing or talking; rapid pulse; nausea and vomiting; convulsions; numbness, tingling or paralysis; excess salivation; sometimes diarrhea; drowsiness; headache; fever; loss of muscle coordination; and swelling in tongue, throat or elsewhere.

No frequencies exist for snakebites. Go to an emergency room so you can receive an injection to neutralize the venom!

That said, I know several people who had no such access, and successfully dealt with snake and scorpion bites by applying electricity to the bitten area. Current can come

from a "rife" electrode unit, a Tennant Biomodulator® or Avazzia™ (see Appendix C), or even a TENS unit (whose excessive voltage in this case is actually beneficial). They applied the electrodes around the bite as close to the wound as possible. They felt pain, but boosted the current as high as they could tolerate it. The electrical current is reported to neutralize the venom by denaturing its proteins. Other people (with or without using current) have successfully drawn out the poisons by applying poultices, made from clay or activated charcoal, onto the wounds. Fresh poultices were added as soon as the previous ones had dried.

SNEEZING

See under **RESPIRATORY TRACT**, *Nose and Sinuses*.

SNORING

See **SLEEP APNEA**.

SOFT TISSUE CONDITIONS

See specific body part and problem under **INJURIES** or **MUSCLES**.

SORE THROAT

See various entries under **RESPIRATORY TRACT**, *Throat and Lymph Nodes*.

SPASMS, BACK

See "Backache, including Spasms" under **INJURIES**.

SPASMS, MUSCULAR

See under **MUSCLES**.

SPASTIC ATAXIA

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

SPASTIC PARALYSIS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

SPASTIC PARESIS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

SPIDER BITES, ALL

See various spider-related entries under **INSECT BITES**.

SPINE PROBLEMS, ALL

See "Subluxation / Spine Distortion" under **BONE AND SKELETON** or **INJURIES**.

SPLEEN, ENLARGED, AND OTHER CONDITIONS

The spleen, a bean-shaped organ angled beneath the left breast, contains the largest mass of lymph tissue in the body, covered by connective and smooth muscle. It's connected to the rest of the lymphatic system by vessels. Unlike the lymph channels, the spleen does not carry lymphatic fluid; and unlike the lymph nodes, the spleen does not filter or clean lymph. Instead, it produces what eventually turn into antibody-producing blood plasma cells. Antibodies, basic

to the body's immune response, are the biochemical agents against specific pathogenic or foreign antagonists in the body. The spleen also breaks down bacteria and worn-out or damaged blood cells, and creates new blood cells.

Also see lymph frequencies under **RESPIRATORY TRACT, Throat and Lymph Nodes**.

20, 27.44, 35, 465, 660 + 690 + 727, 787, 802 + 1550, 880, 1800, 2170, 2720, 3176, 10K, 40K (for as long as desired)

SPONDYLITIS, ALL TYPES

See "Ankylosing Spondylitis / Bechterew's Disease" under **BONE AND SKELETON**.

SPOROTRICHUM PRUINOSUM

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

SPRAIN

See under **INJURIES**.

SPUR, BONE

See under **BONE AND SKELETON**.

SQUAMOUS CELL CARCINOMA

See "Skin Cancer / Squamous Cell Carcinoma / Basal Cell Carcinoma" under **CANCER**.

STACHYBOTRYS CHARTARUM

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

STAMMERING

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

SUICIDAL TENDENCIES

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

STAPHYLOCOCCUS / STAPH, MANY STRAINS (INCLUDING MRSA)

See under **BACTERIA**.

STEMPHYLIUM

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

STOMACH CONDITIONS, MANY

See **GASTROINTESTINAL TRACT, Stomach and Esophagus**.

STOMATITIS

See "Canker Sores / Stomatitis Aphthous" under **DENTAL, Mouth and Gums**.

STONES, KIDNEY

See "Kidney Stones" under **URINARY TRACT, Kidneys**.

STREP THROAT

See "*Streptococcus pyogenes* / Strep Throat" under **BACTERIA** or "Strep Throat" under **RESPIRATORY TRACT, Throat and Lymph Nodes**.

STREPTOCOCCUS, MANY STRAINS

See under **BACTERIA**.

STREPTOTHRIX

See "*Actinomyces*" entries under **BACTERIA**.

STROKE AND STROKE PARALYSIS / APOPLEXY

See under **HEART, BLOOD AND CIRCULATION**.

STRONGYLOIDES

See under **PARASITES, PROTOZOA AND WORMS**.

STRUMA, ALL TYPES

See "Goiter" under **GLANDS, Thyroid**.

STUDY MODE—TO IMPROVE BRAINPOWER AND ALERTNESS

See under **REGENERATION AND HEALING**.

STYE

See under **EYES**.

SUBLUXATION

See under **BONE AND SKELETON** or **INJURIES**.

SUN, ALLERGY TO

See "Photosensitivity" under **EYES**.

SUNSTROKE AND SUNSTROKE FEVER

Along with the rise in body temperature, symptoms include dizziness, headache, rapid pulse, nausea, and if prolonged, hallucinations, convulsions, and unconsciousness. Lie down, get cooler, drink water, and get medical attention.

20, 95, 146, 190, 428, 440, 444 + 1865, 522, 880, 3K, 10K

SWELLING DUE TO WATER RETENTION

See "Lymphedema / Edema / Dropsy / Water Retention" under **LYMPHATIC SYSTEM**.

SWIMMER'S EAR

See under **EARS**.

SWINE FLU

See under **VIRUSES**.

SWOLLEN GLANDS

See "Glands, Swollen" under **RESPIRATORY TRACT, Throat and Lymph Nodes**.

SYPHILIS

See under **MEN, Penis** or **WOMEN, Vagina, Labia and Clitoris**.

You may not need every frequency in an entry.

To determine which ones you need,
try muscle testing or dowsing (see Chapter 4).

-T-

TACHYCARDIA

See under **HEART, BLOOD AND CIRCULATION**.

TAENIA PISIFORMIS

See under **PARASITES, PROTOZOA AND WORMS**.

TAPEWORM

See under **PARASITES, PROTOZOA AND WORMS**.

TB

See **TUBERCULOSIS, ALL TYPES**.

T CELL LEUKEMIA

See “Leukemia, T Cell” under **CANCER**.

TENDOMYOPATHY

See under **MUSCLES**.

TEETH GRINDING

See “Teeth Grinding / TMJ Problems / Jaw Pain” under **DENTAL, Teeth**.

TENDONS, TO REPAIR

See under **REGENERATION AND HEALING**.

TENDON TEAR

See under **INJURIES**.

TENDONS, RHEUMATOID ARTHRITIS

See “Rheumatoid Arthritis” under **ARTHRITIS**.

TENNIS ELBOW

See under **INJURIES**.

TESTICLE CONDITIONS

See under **MEN, Testicles**.

TESTOSTERONE LEVELS, TO NORMALIZE (FOR BOTH MEN AND WOMEN)

See under **REGENERATION AND HEALING**.

TETANUS

See “*Clostridium tetani* / Tetanus / Lockjaw” under **BACTERIA**.

THALAMUS CONDITIONS

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

THREADWORM

See “*Strongyloides stercoralis* / Threadworm” under **PARASITES, PROTOZOA AND WORMS**.

THROAT CONDITIONS

See under **RESPIRATORY TRACT, Throat and Lymph Nodes**.

THROMBOCYTOPENIC PURPURA

See under **HEART, BLOOD AND CIRCULATION**.

THROMBOPHLEBITIS

See under **HEART, BLOOD AND CIRCULATION**.

THROMBOSIS, ALL KINDS

See under **HEART, BLOOD AND CIRCULATION**.

THRUSH

See under **DENTAL, Mouth and Gums**.

THYMUS GLAND CONDITIONS

See under **GLANDS, Thymus**.

THYROID GLAND CONDITIONS

See under **GLANDS, Thyroid**.

TINEA CRURIS

See “Jock Itch” under **MEN, Penis** or **WOMEN, Vagina, Labia and Clitoris**.

TINEA PEDIS

See “Athlete’s Foot” under **SKIN**.

TINEA VERSICOLOR

See under **SKIN**; or *Malassezia furfur* / *Microsporon furfur* / Tinea Versicolor” under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

TINNITUS

See under **EARS**.

TISSUE HEALING AND REGENERATION

See applicable entries under **REGENERATION AND HEALING**.

TMJ (TEMPOROMANDIBULAR JOINT) PROBLEMS

See “Teeth Grinding / TMJ Problems / Jaw Pain” under **DENTAL, Teeth**.

TOBACCO MOSAIC VIRUS

See under **VIRUSES**.

TONSILLITIS

See “Glands, Swollen” under **RESPIRATORY TRACT, Throat and Lymph Nodes**.

TOOTH CONDITIONS

See under **DENTAL, Teeth**.

TOURETTE’S SYNDROME

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

TOXINS, ALL TYPES—TO ELIMINATE

See **CHEMICAL SENSITIVITY / POISONING**.

TOXOPLASMA CANIS / TOXOCARIASIS

See under **PARASITES, PROTOZOA AND WORMS**.

TOXOPLASMA GONDII / TOXOPLASMOSIS

See under **PARASITES, PROTOZOA AND WORMS**.

TRACHOMA

See under **EYES**. Also see “*Chlamydia trachomatis*” under **SKIN; BACTERIA; URINARY TRACT**; or **WOMEN, Vagina, Labia and Clitoris**.

TRAUMA, GENERAL

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**. Also see listing pertaining to body part and condition.

TRENCH FEVER

See “*Bartonella quintana* / Bartonellosis” under **BACTERIA**.

TRENCH MOUTH

See under **DENTAL, Mouth and Gums**.

TREPONEMA DENTICOLA, TREPONEMA PALLIDUM

See under **BACTERIA**.

TRICHINELLA SPIRALIS

See under **PARASITES, PROTOZOA AND WORMS**.

TRICHINOSIS

See under **PARASITES, PROTOZOA AND WORMS**.

TRICHODERMIA VIRIDE

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

TRICHOMONAS, ALL TYPES

See under **PARASITES, PROTOZOA AND WORMS**.

TRICHOPHYTON, ALL TYPES

See under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

TRIGEMINAL NEURALGIA

See “Neuralgia, Trigeminal” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

TRYPANOSOMA BRUCEI GAMBIENSE

See under **PARASITES, PROTOZOA AND WORMS**.

TUBERCULOSIS, ALL TYPES

This very infectious airborne disease, known to affect the lungs, also causes swelling and tumor-like welts of tissue in the intestines and meninges (membrane around the spinal cord). Symptoms may also include fever, cough, and difficulty breathing.

Can be caused by bacteria, viruses, or fungi. The many frequencies so close to each other illustrates the mutation capacity of these pathogens. Experiment with all the frequencies to deal with both the disease and the so-called secondary infections springing from the disease. Run sweeps.

Tuberculosis, General

First try: 21508.01, 2127.5, 1070.82, 660 + 690 + 727

Then try: 20, 216, 221, 333 + 523 + 768 + 786, 465,

532, 590, 720, 740, 776, 784, 787, 799, 800, 801, 802 + 1550, 803, 804, 1132, 1500, 1552, 1600, 1644, 1840, 2008, 2313, 3353, 6516

Mycobacterium avium / Bird Tuberculosis

See “Tuberculosis, Aviare / *Mycobacterium avium* / Bird Tuberculosis” in this section.

Mycobacterium tuberculosis

For more frequencies, see under **BACTERIA**. The rod form, from Royal Rife, possibly used on his #4 machine: 369K

Nigrospora-related Tuberculosis

This fungus is found in the lungs and sinuses, causing TB-type infections and allergies.

302, 350, 764

Tuberculosis, Aviare / Mycobacterium avium / Bird Tuberculosis

Mycobacterium avium causes tuberculosis not only in birds, but sometimes in cattle and other animals. Symptoms of cough, fatigue, fever, weight loss and night sweats can also be caught by humans, particularly those with compromised immune function.

First try: 532 (from Dr. John Garvey), then (all the rest from Dr. Richard Loyd) 455, 303, 332, 342, 438, 440, 529.3, 532, 590, 697, 698, 720, 731, 741, 748, 770, 824.5, 825.7, 860.2, 937.4, 2075, 3113, 6515

Add to above (from Dr. Loyd): 529.3, 608.4, 615.7, 617.8, 619.7, 625.9, 632.2, 642.2, 674.3, 680.4, 680.8, 694.1, 700.9, 769.6, 770.6, 773.3, 786.7, 803.4, 818.5, 830, 857.6, 858.2, 860.2, 896.9, 953.6, 1001.2, 1037.5, 1058.6, 1148.3, 1180, 1235.7, 2117.1, 2471.3, 6784.375
Also sweep 825–830

Also try Clark’s *Mycobacterium* TB-related: 21508.01, 1070.82

Tuberculosis, Bovine

523, 3353 (both from Dr. John Garvey), 229, 600 + 625 + 650, 635, 748, 757, 838, 877

Tuberculosis, from Klebsiella bacterium

221, 1132, 1644, 2313, 6516 (all from Dr. John Garvey), 217, 220, 686, 729, 748, 1644

Tuberculosis, Secondary complications

776, 465, 2008, 2127.5

Tuberculosis Virus

1552, 2565

End of Tuberculosis section.

TULAREMIA

See “*Francisella tularensis* / Tularemia / Rabbit Fever / Deer Fly Fever” under **BACTERIA**.

To help eliminate debris from tumors: 688 Hz

TUMORS, BENIGN

An abnormal enlargement of tissue not caused by swelling. Different types of tumors are composed of different tissue: connective, fatty, fibrous, glandular, lymphatic, mucosal, muscular, nerve, bone, or blood vessel. They are typically round, but can have varied sizes and shapes. Tumor size can range from 1 mm to 50 mm or larger. The body's tendency to form tumors is a deviation from its optimal DNA. Diet can play a part in their formation, especially tumors of the breast. Eliminating chocolate and coffee can make a huge difference in shrinking the tumor or eliminating it entirely.

Spectro-Chrome Color Therapy has been shown to be remarkably successful at eliminating tumors. Don't let its "low tech" simplicity and affordability deter you from using it (see Chapter 3). In case the body has created the tumor to envelop and contain toxins, see **CHEMICAL SENSITIVITY / POISONING**. Get into the sauna. And because benign tumors can become cancerous, watch them—and also see applicable entries under **CANCER**.

Benign, unspecified

From Dr. Richard Loyd: 688

Actinomyces related

In Dr. Richard Loyd's experience, most benign tumors are caused by *Actinomyces israelii*.

From Dr. Richard Loyd: 4262 and 787

Adenoma, Cervical / Cervical Adenoma

Although a tumor in the cervix may be benign, it can become malignant. You are strongly advised to see "Uterine Cancer or Tumor" and other entries under **CANCER**. Also see "Cervical Polyp" in this section.

From Dr. John Garvey: 443

Cervical Polyp

Also see **CANCER**, because benign tumors can grow and become malignant. Also see **WOMEN, Uterus, Cervix, Ovaries and Fallopian Tubes**, "Cervical Adenoma."

689 (from Dr. John Garvey), 277, 288, 687, 744, 867

Cladosporium fulvum

A fungus that causes raised, irregular nodules of soft tissue that can be slow to heal.

438 (from Dr. John Garvey), 233, 344 + 510 + 943, 776

Cholesteatoma

Benign inflammatory tumor usually found in middle ear and mastoid bone region. Also see **CANCER** in case the tumor becomes malignant.

453, 618, 793, 5058

Lipoma

Fatty tumor, usually benign and in clusters, often just under the skin. Establishment medicine doesn't know exactly what causes lipomas, but improper fat metabolism and liver dysfunction are very likely involved. Also see "Liver Cancer" and other entries under **CANCER** in case the tumors become malignant, as well as various entries under **LIVER AND GALLBLADDER, Liver**.

47 (5 minutes), 606 (5 minutes), 709 (5 minutes). Also sweep 2K–2200; or do 2K–2200 in increments of 5 Hz, staying on each number for 30 seconds to 1 minute

Meningioma

Benign, slow growing tumor of the meninges (membranes around brain and spinal cord.) Also see **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**, "Meningitis."

446, 535, 537

Myoma

See "Uterine Tumor / Myoma" in this section.

Nasal Polyp

Benign growth or tumor inside nasal passage.

542, 1436

Ovarian Cyst

Sac containing a liquid in the ovary.

982 (from Dr. John Garvey), 567, 711

Papilloma Virus Cyst

Certain type of tumor containing skin cells.

6.3 + 148, 110, 264, 634, 760, 762, 767, 848, 874, 907, 917, 1102

Polyp, General

20, 146, 444 + 1865, 465, 522, 600 + 625 + 650, 660 + 690 + 727, 1600, 1800, 2008, 2127.5, 2170, 2489, 2720

Prostate Tumor

Benign tumors can become malignant, so you are strongly advised to also see "Prostate Cancer" under **CANCER**.

20, 60 + 100, 72, 95, 125, 146, 410, 442, 444 + 1865, 465, 522, 660 + 690 + 727, 688, 748, 766, 776, 787, 802 + 1550, 1875, 2008, 2050, 2127.5, 2170, 2250, 2489, 2720

Toxins from the Tumors, to Help Eliminate

688

Uterine Tumor / Myoma

Tumor comprised of muscle tissue. Also see **CANCER**.

453, 689, 832 (all from Dr. John Garvey), 127 (in case of malignancy), 253, 420, 453, 832

In addition, sweep from 420 to 482 for at least 30 minutes

End of Tumors, Benign section.

TYPHOID FEVER

See “*Salmonella typhi* / Typhoid Fever” under **BACTERIA**.

TYPHOID VIRUS

See under **VIRUSES**.

-U-

ULCER, STOMACH (PEPTIC) OR DUODENAL

See “*Helicobacter pylori* / Peptic (Stomach) or Duodenal Ulcer” under **BACTERIA**.

ULCER, VENTRICULAR

See under **HEART, BLOOD AND CIRCULATION**.

UNDULANT FEVER

See the various *Brucella* entries under **BACTERIA**.

UREAPLASMA UREALYTICUM

See under **BACTERIA**.

UREMIA / UREMIC POISONING

See under **URINARY TRACT, Kidneys**.

URETHRA CONDITIONS

See under **URINARY TRACT, Bladder and Urethra**.

URINARY TRACT

The urinary tract consists of a pair of kidneys (at the waist on either side of the body), the muscular urinary bladder (near the pubic bone), two ureters (tubes that connect the kidneys to the bladder), and the urethra (which runs from the bladder through the genitals and to the outside of the body). Normal urine is generally pale yellow, but its color and odor can vary, depending on diet, concentration of solutes to water, and the amount of bile and other bodily secretions it contains. Urine should be clear and not cloudy. If it's cloudy, or contains blood or particulate matter, this usually indicates infection.

Proportionately for their size, women's bladders are smaller than men's; so women need to urinate more frequently. When urine is held inside the body for too long, the urinary tract is prone to more infections. The fewer public toilets generally available to women than to men, along with the structure of the female body (there's less room for a large bladder as internal reproductive organs take up a lot of space), helps explain why more females than males suffer from bladder infections.

Hot peppers, spices, fats, fried foods, alcohol, and caffeine-laden foods (black tea, chocolate, cola and coffee) are very irritating to the urinary tract. These, and large amounts of protein, burden the kidneys especially; so omit all of these foods from your diet until the condition clears. Natural ingredients have a good track record for treating urinary tract conditions (see next page). An herbal parasite cleanse is sometimes recommended too.

Infections in one part of the urinary tract can spread to others, so try all the frequencies if you aren't getting results. Use 2050 with all programs. Also see the three pathogens that most commonly appear in cases of infection: “*Candida albicans*” under **CANDIDA, FUNGI, MOLDS AND YEASTS**, “*E. coli*” under **BACTERIA**, and “*Trichomonas vaginalis*” and other parasites under **PARASITES, PROTOZOA AND WORMS**.

Bladder and Urethra

The urinary bladder—or simply “bladder” as it's generally called—is a hollow muscular organ located behind the pubic bone. It is connected to the urethra, a narrow tube leading to the outside the body via the genitals. The shape of the bladder depends on how much urine it contains at a given time. The bladder receives urine from the kidneys and holds it until the urine is expelled.

Bladder Cancer

See under **CANCER**.

Bladder Infection / Inflammation with possible Urethra involvement

Pain and burning when urinating, sometimes with pus or blood in the urine. Both the urethra and bladder may be infected. Symptoms also include a persistent urge to urinate, the frequent passing of small amounts of urine, and cloudy, strong-smelling urine (which indicates infection). Women may have pelvic pain and men may experience rectal pain.

All of the urinary tract structures are in such close proximity to the vagina that it's easy for a vaginal infection to turn into a urinary tract infection. Also, women should be especially careful when they wipe themselves while on the toilet. Wiping from the front of the vagina toward the anus (instead of in the other direction, which many women tend to do) will help reduce the chances of infection. Often the infection will be from *E. coli*, so also see **BACTERIA, E. coli / Escherichia coli**. For a shorter program, see “Cystitis,” below.

1.1 + 73, 1.2 + 250, 9.39, 9.4, 10, 20, 40, 72, 95, 125, 246, 360, 444 + 1865, 465, 498, 530, 600 + 625 + 650, 630, 642, 660 + 690 + 727, 724, 726, 771, 776, 787, 802 + 1550, 832, 880, 1500, 1600, 1800, 2045, 2050 (or 2045 to 2050 for 20 minutes), 2127.5, 2170, 2250, 2720, 10K, 40K

Cystitis

Inflammation of the bladder; symptoms are similar to those of an infection (above). Cystitis can be due to chemicals or bacteria, although the non-bacterial inflammation can always develop into an infection. For a more thorough program, see above.

9.39, 9.4, 20, 465, 498, 530, 630, 660 + 690 + 727, 787, 802 + 1550, 880, 2045, 2050 (or 2045 to 2050 for 20 minutes)

Herbs and Other Natural Remedies for the Urinary Tract

Dr. Richard Schulze, a foremost US herbologist, was taught by the late Dr. John Christopher, a pioneer in the field. Schulze has a doctorate in natural medicine and herbology, as well as degrees relating to herbal pharmacology. The herbs in his urinary tract formulas are below. Note that all the herbs have benefits that extend beyond the urinary tract, some of which have been documented in medical journals.

- ◆ **Burdock Root.** Antifungal. Antibacterial.
- ◆ **Corn Silk.** Anti-inflammatory. Diuretic (increases flow of urine).
- ◆ **Goldenrod.** Anti-inflammatory. Aquaretic (increases flow of urine without electrolyte loss).
- ◆ **Gravel Root (Queen of the Meadow).** Eliminates gravel/stones from kidneys by dissolving uric acid.
- ◆ **Horsetail.** Anti-inflammatory. Antimicrobial. Diuretic.
- ◆ **Hydrangea Root.** Diuretic. Prevents formation of stones in kidneys and bladder.
- ◆ **Juniper Berry.** Antibacterial. Antifungal. May be toxic in large amounts over long periods.
- ◆ **Marshmallow Root.** Somewhat weaker version of *Uva ursi* (last entry, below).
- ◆ **Orange Peel.** Antibacterial. Antifungal. Dissolves kidney stones.
- ◆ **Parsley Root.** Anti-inflammatory. Antimicrobial.
- ◆ **Peppermint Leaf.** Antibacterial. Antiviral. Antifungal. Heavily resistant to *E. coli*, which often infects the urinary tract. Increases blood circulation.
- ◆ **Uva Ursi Leaf.** Antimicrobial. Astringent. Diuretic. Was standard of care for urinary infections before pharmaceutical antibiotics were developed. Works best in an alkaline environment, so don't use in conjunction with cranberry juice (which is acidic).



Other Natural Remedies

- ◆ **Cranberry Juice.** Comes as unsweetened juice or powder extract in capsules. Antibacterial. Contains mannose, a non-carbohydrate sugar that prevents bacteria from adhering to the urinary tract walls.
- ◆ **Mannose or D-Mannose (see above).** Available separately as a powder.
- ◆ **Garlic.** Antifungal, antibacterial, antiviral. To benefit from the fresh clove, crush it and wait five minutes for its phytochemicals to activate. No-odor capsule supplements are also available.

Cystopyelonephritis

Inflammation encompassing kidney and bladder. Also see other entries in this **URINARY TRACT, Bladder and Urethra** section.

From Dr. John Garvey: 1385

Gravel in Urine

Gravel consists of minerals and acids—phosphates, calcium, oxalate and uric acid particles—that have not been completely broken down by the body. There might be a metabolic problem, so consult a health care provider. Make sure to drink pure water in which all the minerals are completely dissolved. 2.65, 20, 660 + 690 + 727, 787, 880, 3K, 40K

Incontinence

Inability to contain urine. Incontinence in both children and adults involves the same pathogens, although with children there may also be emotional factors or food allergies involved. Eliminate irritants such as spices, chemicals, and caffeine from the diet. Bed wetting can also be due to a parasite infection, so see **PARASITES, PROTOZOA AND WORMS**, “*Enterobius vermicularis* / Pinworm / Seatworm.” Also see entries under **GASTROINTESTINAL TRACT**. 465, 660 + 690 + 727, 787, 802 + 1550, 880, 10K

Interstitial Cystitis

Chronic inflammation of the bladder. This condition is far more severe than an ordinary bladder infection. Symptoms include not only frequent and painful urination along with recurrent urinary tract infections, but in many cases, chronic pelvic pain and pain with sexual intercourse as well. Conventional medicine can only treat symptomatically, with pain mediations, anti-inflammatory medications, and a drug that coats the lining of the bladder so the symptoms are less severe.

Arizona physician Stephen Fry identified a fungus, *Funneliformis mosseae* (formerly known as *Protomyxzoa rheumatica*), living in the blood and urine of the majority of hundreds of people with interstitial cystitis. In addition to the frequencies below, the anti-inflammatory herb *Mimosa pudica* (also known as the “sensitive plant” or the “touch-me-not plant”) has shown great promise in treating this condition. It also helps with Lyme, its co-infection *Babesia*, and many types of intestinal parasites, which may accompany interstitial cystitis.

515, 1583

Streptococcus enterococcinum

Often present with digestive and urinary infections. 409, 686

Urethritis

Inflammation, with or without infection of the urethra. Symptoms include burning on urination, perhaps with discharge. The discharge is more easily observed in the penis than in the vagina. In women, a bladder/urethra infection often affects the genital area, so also see **WOMEN, Vagina, Labia and Clitoris**, “Vaginitis.” Also see “*Ureaplasma urealyticum*” under **BACTERIA**.

1.2 + 250, 72, 95, 125, 444 + 1865, 465, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 802 + 1550, 832, 880, 1500, 1600, 1800, 2127, 2170, 2720

Urethritis from *Chlamydia trachomatis*

The *Chlamydia trachomatis* bacterium is sexually transmitted. It can cause a variety of infections, including urethritis (inflammation of the urethra or urinary tube), lymphogranuloma venereum (venereal disease characterized by inflammation and ulceration of the lymph glands), proctitis (inflammation of rectum and anus), and even conjunctivitis (inflammation of the mucous membranes of the eyes). Women need to be especially careful because the infection may result in miscarriage and infertility. If a woman is infected while giving birth, the pathogen can be passed to the infant in the birth canal, causing eye infections and pneumonia. New findings suggest that this organism may play a developmental role in Multiple Sclerosis and cancer, so it's important to get your condition treated. Also see **BACTERIA**, “*Chlamydia pneumoniae*” and “Lymphogranuloma venereum (LGV)” under **MEN, Penis** or **WOMEN, Vagina, Labia and Clitoris**.

From Dr. John Garvey: 430, 620, 624, 840, 2213
Also try: 430, 555.7, 866, 1111.4, 2222.8

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set:

379700 (lowest), 381K (optimal), and 383950 (highest)

Hz set:

941.18 (lowest), 944.40 (optimal), and 951.72 (highest)

Also from Clark: 18968.87

Kidneys

The kidneys are a pair of reddish organs four to five inches in length—shaped just like kidney beans, which take their name from the organ—located below the ribs in the back of the body on either side of the spine. These delicate organs filter the entire volume of the blood about 20 to 25 times each day, through about one million tiny sieve-like nephrons. Body chemistry is critically dependent on efficient kidney function. The kidneys are responsible for

maintaining a constant volume of water in the body, a uniform acid/base concentration of the blood, and the proper ratio of minerals to water in the system. They also regulate blood pressure and remove wastes from the body. The kidneys contain special cells that sense what to pass to the bladder as waste, to be expelled in the urine (wastes include metabolic byproducts urea and ammonia, as well as drugs and other toxins), and what to reabsorb and recycle back into the blood (such as minerals that the body needs). Inflammation or infection in the kidneys can be very serious because both of these conditions can indicate, and further cause, a buildup of wastes and toxins. Once these organs become overloaded, they cannot filter properly; and then contaminated material gets dumped back into the bloodstream, circulating to all of the body's tissues.

The kidneys play an indirect but crucial role in heart function. If there aren't enough Omega 3 fats in the diet, the kidneys secrete rennin. This causes the adrenals to secrete angiotensin, which causes the blood vessels to constrict and raise blood pressure. Blood pressure often normalizes once the kidneys are supplied with Omega 3s.

Read the beginning of this section for dietary suggestions; it cannot be emphasized enough how damaging caffeine is to the kidneys. See Sidebar, “Herbs and Other Natural Remedies for the Urinary Tract.” See the entries under **URINARY TRACT, Bladder and Urethra**. Because the kidneys, liver, and lymphatic system are all primary channels of elimination and detoxification, also see **CHEMICAL SENSITIVITY / POISONING**. And see **BACTERIA**, “*E. coli / Escherichia coli*,” which causes the majority of urinary tract infections.

Bright's Disease

Generic term for acute and chronic disease of the kidneys, which can involve many types of dysfunction. See other entries in this section.

Cystopyelonephritis

Inflammation encompassing the kidneys, bladder, and surrounding areas. Also see other entries under **URINARY TRACT**.

1385

Infection (if you don't know what you have)

First try: 264 (from Dr. John Garvey), 1.1 + 73, 1.2 + 250, 6.3 + 148, 9.19, 9.2, 10, 20, 40, 440, 444 + 1865, 465, 594, 660 + 690 + 727, 776, 787, 802 + 1550, 880, 1500, 1600, 2008, 10K, 40K

Then try: 72, 95, 125, 146, 333 + 523 + 768 + 786, 424, 434, 522, 555, 600 + 625 + 650, 834, 2045, 2050 (or 2045 to 2050 for 20 minutes)

Kidney Function, to Balance and Normalize

1.1 + 73, 1.2 + 250, 6.3 + 148, 8, 10, 20, 40, 72, 95, 125, 146, 248, 333 + 523 + 768 + 786, 440, 444 + 1865, 465, 522, 555, 600 + 625 + 650, 800, 802 + 1550, 880, 1500, 1600, 3K, 5K, 10K

Kidney Meridian, to Balance

Electrodes placed directly on key kidney points may work the best.

9.2

Kidney Stones

Small, hard masses formed in the kidney from crystallized minerals (usually calcium) and other substances in urine. Once a stone starts moving—from the kidney into the ureter and bladder, and then out of the body through the urethra—it can cause extreme pain and other symptoms including nausea, vomiting, fever, chills, pain in the back or side, and a burning feeling while urinating.

Diet and lack of fluids contribute to the formation of kidney stones. However, in 1938, a doctor examined stones passed by his clients and found bacteria embedded deep inside them. Phytotherapist Kerry Bone suggests a dietary increase of magnesium and a dietary decrease of oxalates (found in coffee, tea, chocolates, and some fruits including tomatoes and oranges). This will help prevent stones from forming. The herbs cascara and yellow dock may help bind calcium in the urine and make it less likely to solidify. The bacterial aspect of kidney stones is a good reason to use frequencies. Also see “*Ureaplasma urealyticum*” under **BACTERIA**.

30.5, 787, 444 + 1865, 660 + 690 + 727, 880, 1552, 3K, 6K, 10K, 40K (for as long as desired)

Nephritis

Inflammation of the kidneys. When the kidneys are inflamed, they can develop an infection, so see other entries in this. Also see “*Ureaplasma urealyticum*” under **BACTERIA**.

1.1 + 73, 10, 20, 40, 264, 274, 423, 636, 465, 660 + 690 + 727, 787, 688, 880, 1500, 2045, 2050 (or 2045 to 2050 for 20 minutes), 3K, 10K, 40K

Nephrosis

Degenerative changes in the kidney without the inflammation.

1.1 + 73, 40, 465, 660 + 690 + 727, 787, 880, 1500, 10K, 40K (for as long as desired)

Pyelitis

See “Infection” in this section.

Streptococcus enterococcinum

Often present with digestive and urinary tract infections.

409, 686

Tumor, benign, caused by the *Papilloma Virus*

See **CANCER** if the tumor persists.

6.3 + 148, 110, 264, 634, 760, 762, 767, 848, 874, 907, 917, 1102

Uremia / Uremic Poisoning

Often occurs during kidney failure, when excessive amounts of nitrogen-rich waste products accumulate in the blood. Also see “Lymph System Circulation / Drainage, to Increase” under **LYMPHATIC SYSTEM**.

911

End of Urinary Tract section.

URTICARIA

See “Hives / Urticaria” under **SKIN**.

UTERINE CANCER OR TUMOR

See under **CANCER**.

UTERINE TUMOR, BENIGN / MYOMA

See under **TUMORS, BENIGN**.

UTERUS, DROPPED OR TIPPED

See “Uterus, Prolapsed / Dropped or Tipped” under **WOMEN, Uterus, Cervix, Ovaries and Fallopian Tubes**.

-V-

VACCINATIONS, REACTIONS TO

See under **CHEMICAL SENSITIVITY / POISONING**. Also see Chapter 1, **The Vaccine Controversy**.

VAGINITIS

See under **WOMEN, Vagina, Labia and Clitoris**.

VALLEY FEVER

See “*Coccidioides immitis* / Valley Fever / Coccidioidomycosis / Coccidiosis” under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

VARICELLA

See “*Herpes Virus Type 3 / Herpes zoster* / Chicken Pox / *Varicella* / Shingles” under **VIRUSES**.

VARICOSE VEINS

See under **HEART, BLOOD AND CIRCULATION**.

VARIOLA / SMALLPOX

See under **VIRUSES**.

VEGETATIVE DYSTONIA

See “Dystonia, Vegetative” under **MUSCLES**.

VEIN INFLAMMATION

See under **HEART, BLOOD AND CIRCULATION**.

VENEREAL DISEASES, ALL

See under **MEN, *Penis*** and **MEN, *Urinary***; or under **WOMEN, *Vagina, Labia and Clitoris*** and **WOMEN, *Uterus, Cervix, Ovaries and Fallopian Tubes***.

VENEREAL WARTS / CONDYLOMA

See “Wart, Venereal / Condyloma” under **MEN, *Penis*** or **WOMEN, *Vagina, Labia and Clitoris***.

VERTIGO

Vertigo is dizziness. It can be caused by microbial infections, neurological impairment, a head injury, adrenal exhaustion, or low blood pressure. See the appropriate entry for your specific issue along with entries under **EAR**, because the inner ear is responsible for maintaining one’s sense of balance. If the vertigo persists, be sure to see “Brain Tumor” under **CANCER**, because dizziness is a noted symptom of having a brain tumor.

4, 5.8, 9.19, 9.2, 20, 60 + 100, 660 + 690 + 727, 787, 880

VIRUSES

Viruses are much smaller than bacteria, and thus much more difficult to view under most microscopes in their active state. The phrase “active state” instead of “live state” is used because science does not regard viruses as living organisms. A virus cannot infect a host, replicate, or sustain its functions without appropriating some of the host’s own cellular material—proteins, lipids, and nucleic acids. This means that a flu virus, for instance, may contain as much biological material from the infected host as what the virus itself originally contained. This is why we have the categories “swine” flu or “bird” flu.

Once inside the host’s cell, viruses assume complex shapes and structures, causing physiological changes that favor viral replication while damaging the efficiency and performance of the host’s cells. Different strains of viruses differ in how they enter the host cell; seize, alter and use that cell’s biological material; mature; and spread through the host.

The medical establishment is aware that when a virus is treated with conventional antiviral drugs, another virus sometimes becomes activated. This is also true with vaccines: someone inoculated against a specific virus doesn’t contract that virus, but instead becomes susceptible to a different one. If the same pattern occurs when you use a frequency, be prepared for the subsequent need to rife for a different virus.

General (if you’re not sure what virus you have)

776, 787, 802 + 1550, 832, 840, 880, 1570, 1998, 2008, 2052, 2127.5, 2489, 2490, 5K

Adenovirus, all types

Can cause severe respiratory, gastrointestinal, urinary, and eye infections. Symptoms include severe sore throat, swollen lymph nodes, diarrhea, vomiting, headache, fever, abdominal cramps, burning or bloody urine, and inflamed

red eyes. Extremely infectious, Adenoviruses disable the normal growth limit function of the cell, leading to malignant tumors. These viruses can be fatal to those with weakened immunity. Many viruses remain in the kidneys and lymph, to be excreted in the stool months after the initial infection.

First try: 739 (from Dr. Richard Loyd), 333 + 523 + 768 + 786, 666, 950.6, 958.8, 959, 959.6, 960.4, 962, 959, 967.6, 969.3, 7767

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 371,450 (lowest), 375K (optimal), 386,900 (highest)

Hz set: 920.73 (lowest), 929.53 (optimal), and 959.03 (highest)

Also from Clark: 334K or 827.90, 371K or 919.62, 393K or 974.15, 568K or 1407.93, 28729.05, 19566.32, 18670.15, 18471, 16628.88

If the above isn’t sufficient, also try: 20, 26, 48, 60, 72, 95, 125, 160 (for 5 minutes), 180, 300, 444 + 1865, 522, 555, 660 + 690 + 727, 787, 802 + 1550, 880, 942, 952, 962, 1395 (for 5 to 10 minutes), 1500, 2050, 2720, 4868, 5K, 6989, 7001, 7009, 7702, 7762, 7767, 10K

Type 2 – 1008.7

Type 5 – 1008.8

Type 12 – 1062.3

Type 17 – 1032.8

Type 40 – 1059.5

Adenovirus-36 (AD-36)

Solid evidence implicates at least two strains of Adenovirus in obesity: AD-36 and AD-37. Researchers discovered that monkeys, mice and chickens injected with the virus gain more weight than do uninfected animals. The virus causes the number of fat cells to increase, as well as triple in size (thus storing more fat). Studies also show that 20% to 30% of overweight humans are infected with the AD-36, compared to 11% of the nonobese population.

If the frequencies below don’t work for you, get them at dnafrequencies.com.

This “fat buster” frequency is from Jeff Sutherland. Run 6028.99 once or twice a week for 40 minutes.

The frequencies below are used by Dr. Richard Loyd. Run for 5–10 minutes each, with a wide sweep of 15 on either side of the main signal): 864, 5218.75, 5796.87, 5859.37, 6140.25, 8875

From Dr. Marty Monahan: 128, 130, 132, 314, 342, 402, 467, 518, 979

Adenovirus-37 (AD-37)

From Dr. Marty Monahan (he uses the same numbers for Adenovirus-36): 128, 130, 132, 314, 342, 402, 467, 518, 979

If these don’t work for you, go to dnafrequencies.com.

Seasonal Vulnerability to the Flu

People are more vulnerable to getting sick when seasons change, especially during spring and fall, and experts may now know why. . . . it's not the cold air that makes people sick; rather, it's the virus. Rhinoviruses and coronaviruses, the two main causes of the common cold, can multiply quickly when the weather is cool—but not too cold. . . .

The influenza virus multiplies and spreads more easily and rapidly when the air is cold and dry. As a result, people tend to catch the flu during winter. . . . Researchers . . . discovered that a seven-degree drop in ambient temperature could interrupt the body's ability to stop cold viruses from multiplying. . . .

During summer, illnesses come from a combination of several factors. People with seasonal allergies may experience a congested feeling and develop runny noses and itches eyes whenever they get near pollen, mold, or grass. . . . their immune systems might get overworked as they respond to these allergies, which makes them more susceptible to viral contagions.

—Michelle Simmons

"Science explains why we are more vulnerable to getting sick when the seasons change"
Natural News, May 16, 2018

Adeno-associated Virus

A pathogenic virus dependent on the Adenovirus for its existence and its ability to replicate, it lodges inside its host. If possible, set your frequency device to run a sweep from 950–970 for at least 30 minutes. If you are overweight and Adenoviruses are implicated in your condition, also try 6028.99 (from Jeff Sutherland) for 40 minutes at least once a week, for weight control. 950.6, 958.8, 959.6, 960.4, 967.6, 969.3

AIDS

See "HIV (Human Immunodeficiency Virus) / AIDS (Acquired Immune Deficiency Syndrome)" in this section.

Aphthovirus / Foot and Mouth Disease / Hoof and Mouth Disease

This should solely be called "Hoof and Mouth disease" because only animals with cloven hoofs are affected: cows, pigs, sheep, goats, buffalo, yaks, and deer. Symptoms include fever, shivering, smacking the lips, grinding the teeth, drooling, lameness, and permanent reduction of milk. Blister-like lesions can appear on the tongue, lips, snout, muzzle, teats, in the soft tissue between the horny parts of the hooves, and in the mouth and nostrils. This condition is usually not fatal, but young animals die easily due to a high incidence of myocarditis (inflammation of the heart).

This highly contagious disease, which infects animals worldwide, is not easy to treat because at least seven viruses and 60 subsets of viruses are involved and the Latin names of microbes are not easily obtained. Rather than rely on frequencies, use herbs, nutrition, and other natural methods to eliminate infection. See a holistic veterinarian.

Note that this condition is not the same as Hand, Foot and Mouth Disease, which infects children. For Hand, Foot and Mouth Disease, see "Coxsackievirus A16 / Hand, Foot and Mouth Disease" in this section.

From Dr. Garvey and others: 232, 237, 558.38, 585.92, 1171.84, 1214, 1243, 1244, 1271, 5411, 1116.76

Avian Flu / Bird Flu

Influenza A virus is a broad category that infects humans and many animal species. It is divided into subcategories, one of which is the avian or bird flu. Bird flu (classified as subtype H5N1 or AH5N1) originated among wild aquatic birds and is highly contagious. Common to Southeast Asia, it now appears in other regions.

The virus rarely infects humans. Mainstream media exaggerates and outright lies, failing to disclose that this virus is not as widespread as people fear (see page 826 Insert, "The Flu vs. a Pandemic"). While it's true that entire flocks have been destroyed due to an infection, the nature of that infection has been unclear. Note that the infected flocks are all factory farmed, raised in unhealthy overcrowded conditions. There are no reports of this flu affecting pasture raised (free range) birds.

From Dr. Marty Monahan: 4896 to 5060 (sweep)

Bird Flu

See "Avian Flu / Bird Flu," previous entry.

Borna Virus / Borna Disease Virus (BDV)

From the virus family *Bornaviridae*. Borna virus causes horses to stop eating, walk in circles and even kill themselves. It is now known to have a strong link, in humans, to depression and other mental illnesses including bipolar disorder and schizophrenia. BDV also affects cats. There are currently no known frequencies for Borna Virus, so go to dnafrequencies.com. In the meantime, you can try these frequencies.

776, 787, 802 + 1550, 832, 840, 880, 1570, 1998, 2008, 2052, 2127.5, 2489, 2490, 5K

BX Virus

See under **CANCER**.

BY Virus

See under **CANCER**.

Cat Virus, unspecified

The frequencies below will probably be insufficient. Make sure to also see **PARASITES, PROTOZOA AND WORMS**, “*Toxoplasma gondii* / Toxoplasmosis.”

364, 379, 645, 654, 333 + 523 + 768 + 786, 840 to 849, 857, 967, 6878

Chikungunya Virus (CHIKV)

Transmitted by mosquitoes to people, birds and rodents. Symptoms can be mistaken for those of dengue fever or the Zika virus. Symptoms include fever, pain and swelling in joints and muscles, headache, rash, fatigue, and sometimes digestive upset and conjunctivitis. Outbreaks have occurred in Africa, Asia and Europe, although in 2014 cases started appearing in the US. People often feel better after about ten days. Doctors believe that immunity occurs after a single infection, but in some people joint and muscle pain persists for months or even years after the initial infection. Treatments include rest, fluids, and anti-inflammatory substances for joint and muscle pain.

From Dr. Richard Loyd: 663, 7293

Cold Sores

See “*Herpes simplex 1*” under **Herpes, all types**, this section.

Coronavirus / SARS / Severe Acute Respiratory Syndrome

Named because of the crown, or bulbous corona, at the top of its structure. There are four to five currently known strains of coronaviruses. Coronaviruses are believed to cause a significant percentage of all colds in humans, mostly in the winter and early spring. However, the most publicized is the strain SARS-CoV, which causes SARS, or Severe Acute Respiratory Syndrome.

SARS affects humans, dogs, cats, pigs, cattle, birds and rodents, commonly infecting the respiratory and gastrointestinal tracts. The epidemic is presumed to have originated in China in November 2002, and then spread to other countries including the United States, Canada, Singapore, and the Philippines. Initial symptoms may include cough, sore throat, pneumonia, muscle pain, diarrhea, and anal warts. Humans have a fever of at least 100.4°F (38°C) and a history of contact with an infected individual. Symptoms generally appear two to 13 days following exposure, although in most cases they occur within two to three days.

Pharmaceutical antibiotics, antivirals, steroids, and other drugs have been found to be ineffective. See Insert on page 828, “Natural Substances That Kill Viruses and/or Support Immune Function.”

145.9, 165.7, 291.7, 331.4, 437.6, 497.1, 583.5, 655, 662.7, 1167, 1312.8, 1325.5, 1491.2, 2333.9, 2651, 4667.8, 5301.9, 9335.6

Covid-19 (SARS-CoV-2)

A laboratory-created, patented virus (related to SARS), whose spike proteins injure the vascular endothelial cells lining the arteries and disrupt molecular signalling to the mitochondria (fuel-burning units of the cells). This explains the wide variety of possible symptoms: heart conditions, including stroke; brain tumors and unrelenting headache; respiratory issues, including wheezing, exacerbation of airborne allergies and difficulty breathing; and neurological disorders, including continual convulsions, shaking, memory loss; and muscle weakness and loss of muscle tone.³³ Try sauna and ozone therapy (see Chapter 3). See Insert on page 828, “Natural Substances That Kill Viruses and/or Support Immune Function.”

There are several reliable sources of frequencies below, each with their own unique system of computing. If one set doesn’t work for you, try another; and if you are still feeling unwell, go to dnafrequencies.com and purchase a set for a very modest sum.

From Dr. Jeff Sutherland. Used with his generous permission. Dr. Sutherland advises eliminating two bacterial cofactors first: *Prevotella* and *Mycobacterium tuberculosis*. See both under **BACTERIA**. This protocol is based on various parts of the Covid anatomy, including spike, nucleocapsid, and membrane proteins. You may need to repeat this for several days to obtain results. This is the order given:

5466.44, 2454.67, 2235.34, 3545.67, 2223, 4545.45, 3344.45, 5454.44, 4656.35, 2235.67, 6666.45, 3455.45, 4545.67, 7546.55, 5676.36, 4545.67, 4545.78, 2232.45, 1112.44, 4454.45, 4676.56, 3454.45, 2454.54, 2234.67, 1334.66

From a clinician who wishes to remain anonymous, but has reported good results. Run for 3 minutes each: 152.2, 155, 304.4, 309.9, 456.5, 464.9, 608.7, 619.9, 760.9, 774.8, 1217.5, 1239.7, 1369.6, 1394.7, 2435, 2479.5, 4870, 4959, 9740, 9918

From Dr. Richard Loyd: 568 and 3,956,175 (one number). The second number is the vibration of Suramin, a safe medication banned by the FDA that addresses the spike proteins. If you received any of the Covid “vaccines” your body is now continually making spike proteins, so you may need to rife this frequency or others for life.

From Jimmie Holman. This scientist, researcher and equipment manufacturer writes: “Over the last two decades, Bioenergetics and Pulsed Technologies (EU) and Pulsed Technologies Research (US) have developed proprietary methods, sources, and biological/laboratory testing to address specific pathogens and their expected mutations. Some methods were developed in close collaboration with PulsedTech associates and professional research partners. The protocols and associated waveforms—optimized to operate on PulsedTech instruments with their broad spectrum capabilities—may not be appropriate for other manufacturers of ‘rife’

The Flu vs. a Pandemic

In under two decades, viruses proclaimed dangerous and deadly were featured on the cover of *Time* magazine: SARS (severe acute respiratory syndrome) in 2003, avian (bird) flu in 2004 and 2005, H1N1 (swine flu) in 2009 (two issues), Ebola in 2014, and Zika in 2016. A pandemic was prophesized in 2017.

Have these viruses really warranted alarm? In 2005 the *British Medical Journal* had editorialized: "The extensive media coverage of avian influenza (bird flu) over recent weeks has caused confusion and increasing concern that bird flu will imminently cause a human pandemic. . . . [However] this AH5N1 avian virus does not currently have the capacity to cause a human pandemic." By 2006, the number of humans with avian flu was 115. In 2007, that number dropped to 86—hardly a compelling statistic, considering prior predictions of a horrible pandemic that could kill 150 million people.³⁴

Jump ahead to 2020 with Covid (also known as Covid-19, or SARS-CoV-2). Billions of people worldwide suffered financial ruin: they lost their jobs, businesses and homes because normal commerce was forbidden to occur. Small, privately owned businesses were forced to close in the name of safety and health, but large chain outlets ("box" stores) were allowed to remain open. "While 45.5 million Americans filed for unemployment," Mercola wrote, "29 new billionaires were created . . . and five of the richest men in the US . . . grew their wealth by a total of \$101.7 billion (26 percent) between March 18 and June 17, 2020, alone. . . . How is it safe to shop with hundreds of people in a Walmart but unsafe to shop in a store that can only hold a fraction of that?"³⁵

Again in the name of health, people were not allowed to congregate in public spaces; and if they did meet, they had to stand six feet apart with masks covering their noses and mouths. This stressful social isolation directly contributed to higher-than-usual divorce rates, domestic violence and child abuse—and even an increase in suicides, especially among teenagers. The cause? The heavily publicized, fear-laden Covid-19 "pandemic" and the worldwide lockdown. Commercial masks were found to contain asbestos and strange toxic fibers. Masks didn't block the transmission of viruses (which are much tinier than the holes in the masks).^{36, 37} Continual covering caused many infections on the mouth and in the respiratory tract^{38, 39}. Also, rebreathing one's own air caused oxygen deprivation leading to scores of health issues, including life-threatening complications.^{40, 41}

Was this really a plague? Coroner reports for the elderly were manipulated so that deaths from cardiovascular disease and other usual conditions

were miraculously almost non-existent; while in their place were suspiciously high numbers of deaths from Covid-19.⁴² "Most people," Dr. Mercola wrote, "have no idea that 94 percent of the death certificates for Covid-19 victims routinely list a number of serious comorbidities leading to death, but that the CDC has ordered doctors to say that in all cases where the deceased has tested positive, or is suspected to be infected, Covid-19 is to be listed as the 'primary' cause of death. . . . The CDC has done its part to ensure that as many deaths as possible are attributed to Covid-19."⁴³ Ironically, the death rate for Covid was similar to that of an ordinary flu, except in vulnerable people over 65 years old who had serious underlying conditions (cardiovascular disease, obesity, respiratory disorders, etc.) that put them at risk for other illnesses.^{44, 45, 46, 47, 48} In fact, people under 60 years old had a lower risk of dying from Covid than they had of dying from a regular, seasonal flu.⁴⁹

Plenty of safe and effective natural (and a few pharmaceutical) protocols were available to treat people who actually did have Covid. However, information on natural treatments was suppressed by the media⁵⁰ and the FDA made access to those drugs difficult.⁵¹ So-called vaccines emerged to treat this condition; but because they were mandated for emergency use, they did not require (nor did they initially receive) FDA approval.^{52, 53}

Covid "vaccines" changed the body's own DNA, causing it to actually create harmful spike proteins that traveled from the injection site to the spleen, liver, bone marrow, adrenals, and ovaries.⁵⁴ People became more, rather than less, susceptible to future infections from all Covid strains. Many suffered from heart attacks, blood clots, strokes, convulsions, seizures, brain tumors, miscarriages, infertility,^{55, 56, 57} anaphylactic reactions, and multisystem inflammatory syndrome.⁵⁸ Vaccine-related data for the US released by the CDC revealed more than 31,240 serious injuries and 6,113 deaths between December 14, 2020 and June 18, 2021.⁵⁹ Just one week later 2,825 more were injured, and 872 more had died.⁶⁰ Statistics for the UK disclosed that from December 9, 2020 to June 23, 2021, people who died numbered 1,403 and over *one million* people—1,007,253—were injured due to "adverse reactions." This was from the so-called cure, not from the virus! More vaccine-related deaths were reported in fewer than five months in 2021 than in the entire previous decade.⁶¹

**No virus has to be a death sentence.
Accepting a dangerous injection is not the answer.
See Insert, page 828.**

machines. The frequencies below [out of a much longer list of over 800 frequencies, covering all strains] are the most important. This program contains all strains detected as of April 27, 2021.” All the times (in parentheses) are in seconds. All numbers following the times are for the same amount of seconds until there’s a change:

(180) 38747.296, (60) 38752.480, (120) 38774.527,
(60) 38792.701, 38794.000, 38795.299, 38796.598,
38806.993, 38817.394, (180) 38829.102,
(60) 38857.750, 38860.357, (180) 38861.660,
(60) 38862.964, 38864.267, 38865.571,
38872.091, 38873.395, 38874.699, 38876.003,
38877.308, 38878.612, 38881.222, 38882.526,
38883.831, 38885.136, (180) 38904.721,
(60) 38906.027, (120) 39398.157

Coxsackie Viruses (unspecified)

These viruses, along with polioviruses, echoviruses and others, belong to the group enteroviruses. Named for their presumed site of origin, the village of Coxsackie in New York, US, this group has a wide variety of symptoms. From Dr. John Garvey: 136, 232, 422, 424, 435, 921, 923
Also try: 144, 380, 595, 612, 642, 674, 676, 708, 769, 889, 922, 1044, 1083, 1189, 1416, 1422, 1488, 1500, 1850, 2166, 2378, 2632, 2832, 3636, 4125, 4130, 4331, 4357, 4755, 5663, 5921, 5987, 6381, 8255, 8265, 8633, 8719, 9511, 9513

Coxsackie A

Common symptoms are respiratory disturbances, fever, liver disease, skin eruptions, neurological disorders, *Herpes* sores in the throat, and unexpected infant deaths. See below. Also try other entries.

Coxsackievirus A16 / Hand, Foot and Mouth Disease

Caused by Enterovirus family microbes, especially Coxsackievirus A16. Most often afflicts children. Symptoms include fever, sore throat, poor appetite, mouth sores, and a rash or blisters on the palms, soles and buttocks. Virus spreads via feces, mucus, saliva, and fluid from the blisters. Untreated, it will last a week to ten days. The biggest danger is dehydration. Don’t mistake this virus’s symptoms for *Shigella* or *Strep* (both bacteria).

From Dr. Richard Loyd: 889

Coxsackie B

This group may cause throat sores, fever, diarrhea, pneumonia, inflammation of the testicles, central nervous system disability, rash, inflammation of the heart muscle, and brain, liver and adrenal infection.

Coxsackie B 1

834 (from Dr. John Garvey), 353, 384, 587, 723
From Dr. Hulda Clark: 902.27, 18122.49

Lisbon court rules only 0.9% of “verified cases” died of COVID, numbering 152, not [the] 17,000 claimed

Following a citizen’s petition, a Lisbon court was forced to provide verified Covid-19 mortality data . . . According to the ruling, the number of verified Covid-19 deaths from January 2020 to April 2021 is only 152, not about 17,000 as claimed by government ministries.

—www.americasfrontlinedoctors.org, June 23, 2021

Coxsackie B 2

534, 705 (both from Dr. John Garvey), 867

Coxsackie B 3

487, 653, 654, 868

Coxsackie B 4

Often linked to diabetes, especially Type 1.
421 (from Dr. John Garvey) 353, 540, 8632
From Dr. Hulda Clark: 898.55, 18047.81

Coxsackie B 5

From Dr. Garvey: 462, 1043, 1083
Also try: 569, 647, 708, 774

Coxsackie B 6

From Dr. John Garvey: 736, 814
Also try: 343, 488, 551, 657, 668, 669

Cytomegalovirus (CMV) / Salivary Gland Virus

See “*Herpes Virus Type 5 (Human Herpes Type 5) / Cytomegalovirus (CMV) / Salivary Gland Virus*” under *Herpes, all types*, this section.

Dengue Virus, Types 1, 2 and 3 / Dengue Fever / Breakbone Fever

Sudden fever lasts about one week. Symptoms include severe headache, cold clammy skin, weak rapid pulse, and gastrointestinal distress (abdominal pain, diarrhea, nausea and vomiting). Tiny red-purple spots from broken blood vessels appear on lower limbs, chest or entire body. Muscle, joint and head pain can be so severe that Dengue is sometimes called “breakbone fever” or “bone-crusher disease.” Blood platelets, which help with clotting, are usually below normal levels until the fever subsides; so subject may bruise and bleed from mucous membranes and gums. In severe cases, blood vessels may burst in the brain (sensitive to bleeding and damage), leading to death. Children and weak adults are susceptible to dying.

Dengue, transmitted by mosquitoes, has been reported for over 300 years in Asia, Africa and North America. Today it’s most common in Africa, Middle East, Southeast Asia, Brazil, and other tropical locales. Highly infectious in blood or while the subject is still feverish, the virus can be contained by better sanitation and by eliminating open areas of stagnant water where mosquitoes breed.

Natural Substances That Kill Viruses and/or Support Immune Function

- ◆ **Colloidal Silver.** Liquid made through the process of electrolysis. Contains both silver colloids (minute particles) and silver ions (tinier particles, which carry an electrical charge). Disables any single-celled pathogen it touches (see Chapter 3).
- ◆ **Colostrum & Transfer Factors.** Produced by a nursing mammal (or human) just after birth (and before the milk flows). Contains transfer factors that support, strengthen and modulate the body's many immune cells. Both colostrum and transfer factors are sold as supplements.
- ◆ **Echinacea.** Increases the number and mobility of white blood cells, which scavenge pathogens. Taken as a tincture, it must make the mouth tingle or else it's not active. Activates the white blood cells up to three days after you stop taking it.
- ◆ **Elderberry (*sambucus nigra*).** A bush plant. Black elderberry and sometimes blue elderberry have been used for healing for centuries. An antioxidant, elderberry prevents viruses from entering the cell and replicating.
- ◆ **Essential Oils (EOs).** Eucalyptus. Cinnamon bark. Clove bud. Lavender. Lemon. Oregano. Tea Tree. Thyme. Combined, they kill a variety of bacteria, viruses and biofilms. Put in a carrier oil (avocado, jojoba, coconut, sesame, olive), they can be rubbed onto the skin. One or two drops can be poured into an ounce of colloidal silver and inhaled through a medical nebulizer to help the lungs.
- ◆ **Iodine.** Mineral. An essential nutrient and potent natural germicide, used by every tissue of the body. Most people are highly deficient. When taken (under medical supervision) in therapeutic amounts, the iodine floods the body—knocking off toxic bromide and fluoride that had latched on to the iodine cell receptor sites and displaced the iodine. Some people believe they have an iodine allergy, but they are reacting to the toxins that have been released into the bloodstream.
- ◆ **Ozone Therapy.** A gas, safe and effective when used correctly. Kills pathogens while vitalizing healthy tissue. You need special equipment to produce the ozone. An ozone sauna allows the ozone to reach the bloodstream rapidly. Ozone is an oxidant—don't use it at the same time as Vitamin C and other antioxidants (see Chapter 3).
- ◆ **Zinc.** Mineral, vital for immune cell function. A major defense against viruses and other pathogens.
- ◆ **Quercetin / Dihydroquercetin.** A flavonoid found in foods. Repairs blood vessels. Makes Vitamin C last longer by replacing its spent electrons. Most important, it escorts zinc across cell membranes. (It's a safer, natural alternative to the drug hydroxychloroquine, which the FDA has discredited.)
- ◆ **Vitamin D3.** Hormone made by the skin during sun exposure. Also in fatty animal foods. Builds bone and immunity. Deficiency is a primary risk factor in severe Covid-19 infection and death.⁶² Most people are deficient. Test levels every few months to avoid overdosing. Take with magnesium and Vitamin K₂.
- ◆ **Sodium chlorite (also called MMS).** Oxidant, similar to ozone. Sold as an inexpensive supplement. When used as directed, MMS treats any condition involving pathogens (such as Covid) or toxins (such as autism). Don't confuse this with toxic chlorine; the two are very different. See MMS, page 618.
- ◆ **Glutathione & N-acetyl-cysteine (NAC).** Glutathione detoxifies. Keeps white blood cells viable longer. Glutathione deficiency is associated with Covid severity.⁶³ NAC, a precursor to glutathione, counteracts blood clots and reduces replication of influenza viruses.⁶⁴ NAC also modulates inflammation. Available as supplements.
- ◆ **Melatonin.** Hormone produced by pineal gland. Regulates sleep, quells inflammation, enhances Vitamin D signaling, helps build immune cells, recharges glutathione. Take at night. Available as a supplement.
- ◆ **Vitamin C.** Antioxidant. Major defense against all pathogens. Protects cell membranes from invading microbes and also strengthens blood vessels. Take 1 gm every hour or to bowel tolerance.
- ◆ **Star Anise.** Spice. Contains shikimic acid, which prevents spike proteins in Covid and its "vaccines" from attaching to cell receptor sites and spreading. Grind it in a spice grinder and drink it as a tea.
- ◆ **Pine Needle Tea.** Certain safe species (Eastern white, pinyon, Masson pine) are antibacterial, antiviral and antifungal. Prevent platelet clumping. Combats spike proteins (see Star Anise, above).
- ◆ **Fennel Seeds.** Herb. Similar antiviral (and anti-Covid) properties (see Star Anise, above).
- ◆ **Dandelion leaf.** Herb. Similar antiviral properties (see Star Anise, above). Available as a tincture.

Treatment includes increased fluid intake, oral or IV, to prevent dehydration. In severe cases, platelet transfusions are given if platelet count drops too low or if there is significant bleeding. Avoid aspirin, anti-inflammatory drugs, and Vitamin E which can thin the blood and aggravate tendency to bleed. Vitamin K helps the blood clot. One of the best treatments is Vitamin C and bioflavonoids; see the “Ebola virus / Ebola hemorrhagic fever” entry below for more details.

148, 149, 206, 211, 216, 423, 846, 1194, 1195, 1196, 1692, 3383, 3389

Ebolavirus / Ebola hemorrhagic fever

Ebola is the common term for a group of viruses belonging to the *Filoviridae* family, as well as for the Ebola hemorrhagic fever caused by the virus. The virus is named after the Ebola River Valley in the Democratic Republic of the Congo in central Africa, near the site of the first recorded outbreaks in 1976. The most common symptoms include high fever, abdominal pain, exhaustion, headache, muscle and joint pain, nausea, vomiting, dizziness, and trouble breathing. Less common symptoms include cough, sore throat, skin rash, chest pain, and red eyes. Advanced-stage symptoms, presumably occurring in over 50% of subjects, include bleeding from the nose, mouth, anus, and deeper organs. This disease affects chimpanzees, gorillas, forest antelopes, and monkeys as well as humans. Some believe that the animal carrier is the fruit bat.

Early symptoms of Ebola are sometimes mistaken for malaria, typhoid fever, dysentery, or influenza. The internal bleeding, the inability of the blood to clot, and the blood platelet destruction caused by Ebola is in many ways similar to Dengue Fever. The incubation period used to be reported as ranging from 5 to 10 days. Today, various sources (WHO, or the World Health Organization and the CDC, or Centers for Disease Control) state that the incubation period may last for 42 days, and that on surfaces and objects, the virus can last for 50 days. However, incubation rates can change. Also, the virus may be mutating so much that it is not always readily detected.

Death rates from Ebola have been reported to range from 30% to 50% and even higher, with sufferers characterized as dull and lethargic. Sources differ as to which symptoms are responsible for death. Various blamed are: the effects of vomiting, diarrhea or high fever (rather than bleeding); organ failure; and the decrease in blood plasma volume from the loss of bodily fluids.

In its later stages, Ebola is highly contagious. Prior to 2014, it was transmissible primarily via body fluids, and sometimes via skin and mucous membrane contact. However, it now appears that Ebola is airborne as well. Also, viable viruses have been found on dead bodies even after one week. Moreover, people supposedly cured from Ebola are now being found to have relapses. “Post-Ebola syndrome” has been named for lingering symptoms of vision and hearing loss, joint pain, headaches, and memory

loss. Some Ebola survivors experience abnormal reflexes (including erratic eye movements) and tremors.

At first, outbreaks tended to occur in remote areas. However, after a new, even more virulent, genetically engineered strain of Ebola was awarded a patent in 2010 (see Insert, page 831, “The Politics of Ebola—and Fear”), an Ebola epidemic arose in Africa in the summer of 2014, creating worldwide panic. Before the genetic engineering of the virus, Ebola was dangerous enough: it had already been classified years ago as a “bioterrorism agent” by the CDC, and medical science stated (inaccurately) that there was no treatment for it. Now this new, weaponized strain of Ebola is even more communicable, via liquids that are expelled from an infected individual. This could be saliva spread through the air via coughing, sneezing or speaking; saliva, vomit, urine or diarrhea hitting a surface and dispersing; or even small splashes of water when a toilet containing infectious material is flushed.

Fortunately, successful natural protocols for Ebola exist, although they are not readily publicized by the mainstream media. Most of the health professionals publicizing the natural protocols have chosen to be anonymous. Some therapies are summarized below.

In 1981, Robert Cathcart III, MD, pointed out an intimate connection between Ebola and Vitamin C. Ebola causes the complete depletion of all Vitamin C from the body. Not coincidentally, the very first symptoms of Ebola are consistent with those of scurvy, which is famously known to result from a Vitamin C deficiency. However, whereas scurvy is due to a partial lack of Vitamin C, Ebola is a complete deficiency. Vitamin C, along with bioflavonoids, protects the blood vessels. But without enough Vitamin C, blood vessels weaken and leak blood. Internal and external bleeding is exactly what happens in people stricken by advanced-stage Ebola. Ebola and other hemorrhagic fever diseases also destroy the blood platelets; and without platelets, the blood cannot clot (thus accounting for the leaking). By the time an Ebola sufferer reaches this point, immunity has already been heavily compromised. With all the viral hemorrhagic fevers including Ebola, the individual is likely to hemorrhage quickly: the virus so rapidly and totally consumes all of the Vitamin C in the body, that the condition is essentially an advanced stage of scurvy after only a few days of infection.

Typically, viral hemorrhagic fevers only reach epidemic proportions in populations with low body stores of Vitamin C—such as Africans, who tend to be severely malnourished. Once the Vitamin C stores are gone, the immune cells cannot fight infection. Therefore, it’s critical to get sufficient Vitamin C into the body immediately, even before infection has taken hold. Supplementation should be steady because the kidneys excrete Vitamin C every two hours if the body isn’t using it. Most animals can manufacture their own Vitamin C, but humans (and a few animals) cannot.

Cathcart emphasized that Ebola and the other acute viral hemorrhagic fevers may require 500,000 mg

(500 grams) of Vitamin C daily before diarrhea occurs. (Diarrhea indicates that the body cannot use, at the moment, all the Vitamin C it's receiving. It's called "bowel tolerance.") Even if 500 gm is too high, because of the scurvy-like symptoms of Ebola sufferers, Vitamin C should be administered in unusually high amounts until the symptoms abate. At least 12 grams (not milligrams) a day is the minimal amount to start. Initially, receiving Vitamin C intravenously as well as orally is ideal; but if that's not possible, take Vitamin C orally. Liposomal C, where the vitamin is encased in fat, enters the cells easily and bypasses the problem of bowel tolerance. See Chapter 3, **Nutritional Supplements**, for instructions on how to make your own liposomal Vitamin C. The antioxidant alpha lipoic acid (ALA) helps the body recycle unused Vitamin C.

A South African homeopathic physician successfully used liquid elemental (atomic, nascent) iodine: 20 drops every two hours for 24 hours. Iodine is a potent germicide that the body needs for all its tissues daily, so it's worth keeping handy for all infectious disease conditions.

The frequencies below are experimental only and they might not work. *Do not rely on frequencies alone!* Also, if you are caring for someone who's infected, wear disposable outer clothing and a mask, and scrupulously decontaminate the area with disinfectants.

169, 234, 239, 244, 479, 957, 1195, 1914, 3828

ECHO Virus / Enteric Cytopathic Human Orphan Virus / Nonpolio Enterovirus Infection

ECHO viruses are a group of enteroviruses whose symptoms include respiratory problems, rashes, nonspecific fevers, gastrointestinal distress, inflammation of the sac around the heart, and a type of meningitis or inflammation of the brain. Also see "Meningitis" and other entries under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

620 (from Dr. John Garvey), 461, 514, 600 + 625 + 650, 620, 722, 765, 788, 922

Enterovirus-71

Attacks the central nervous system, especially in young children. Involved in viral meningitis (polio-like paralysis) and occasionally encephalitis (which can be fatal).

From Dr. John Garvey: 547

Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS) / Herpes Virus 4 (Human Herpes Virus 4)

The Epstein-Barr Virus is actually a strain of *Herpes*. The many *Herpes* strains, although classified as different in their effects and affinities for areas of the body, can gravitate to areas believed to be the domain of other strains. Therefore, read about all of the *Herpes* strains. See "*Herpes* Virus 4 (Human *Herpes* Virus 4) / Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)" under **VIRUSES, Herpes, all types**.

Feline (Cat) Immunodeficiency Virus (FIV)

Causes an HIV-type illness in domestic cats, affecting up to 3% of cats in the US. FIV attacks and weakens the cat's immune function. Also see **CANCER**, "Leukemia, Feline." 262, 323, 372, 404, 567, 712, 742, 760, 773, 916, 1103, 1132, 3701

Flaviviridae / Yellow Fever Virus / Yellow Fever / Yellow Jack / Black Vomit

The World Health Organization has classified three kinds of Yellow Fever, caused by an arbovirus of the family *Flaviviridae* (one of the smallest RNA viruses isolated so far). Jungle (sylvatic) Yellow Fever affects monkeys, but it can spread to humans who work in tropical rain forests and are bitten by mosquitoes infected by monkeys. Intermediate Yellow Fever occurs simultaneously in many humid or semi-humid savannah villages of Africa, but fewer people die from infection. And urban Yellow Fever, which affects only humans, is spread by mosquitoes that have been infected by other people. Symptoms include high fever, chills, headache, muscle and back aches, vomiting (sometimes bloody), abdominal cramping, and mental confusion. More serious cases involve kidney and heart failure, seizures, and coma. The liver malfunction characteristic of this condition causes jaundice—the yellowing of the skin and whites of the eyes—giving Yellow Fever its name. About 5% of people who contract this illness die, usually within a week of the appearance of symptoms.

This disease can lie dormant and then suddenly become an epidemic. Yellow Fever, common in parts of South America and Africa, has increased since the 1980s. The only treatment medical science suggests is to rest and drink plenty of fluids for a long time—and as a supposed prevention, vaccination. For emergencies and serious illnesses, consult an experienced naturopath or other holistic practitioner. Homeopathy may also help.

432, 734 (both from Dr. John Garvey), 0.67, 20, 60, 72, 95, 142, 178, 232, 660 + 690 + 727, 733, 779, 880, 1187, 10K

H1N1

See "Swine Flu / H1N1" in this viruses section.

Herpes, all types

This is the name of the virus as well as the conditions it causes. Symptoms include sores and inflammation in the genitals and mouth, along the skin, or in the nerves deep inside the body, with itching, burning and pain. There are several different kinds of *Herpes* viruses. *Herpes zoster* causes chicken pox and shingles. Cytomegalovirus causes Cytomegalic Inclusion Disease (CID), mostly affecting very young infants and children. The *Herpes simplex* virus—sometimes called *Herpes virus hominis*, although there's apparently more than one type of *Herpes simplex*—is also known as Human *Herpes* Virus 1. These viruses are

The Politics of Ebola—and Fear

Ebola has always been regarded as a dangerous, though outbreaks tended to occur in remote areas. The spread of the virus was generally contained—or avoided completely—through better sanitation and hygiene, including sterilization of surgical instruments.

The summer of 2014 changed the public's perception of Ebola (if they even knew that it existed) when the media publicized a new epidemic. Ebola began in Sierra Leone, spread to Liberia, and then migrated to other parts of the world largely because infected people traveled on aircraft—unrestricted. By the end of the year, the Centers for Disease Control (CDC) confirmed growing numbers of cases (and deaths) in Guinea, Liberia, Nigeria, Senegal and Sierra Leone, as well as countries outside of Africa, including the US.

This Ebola outbreak was planned. How do we know?

- ◆ An October 18, 2007 news release from Tulane University in New Orleans, Louisiana, US, indicated that the US federal government was funding a study to develop “test kits” for viral hemorrhagic fevers (including Ebola) in West Africa. How did researchers know that a need for such “test” kits would exist? Also, did these kits actually test for disease, or did they do something else?
- ◆ Within weeks of the “epidemic” announcement, the drug company GlaxoSmithKline announced that it had developed an Ebola vaccine. Normally, it takes years of human trials before a new vaccine can be developed, and then another long period before the vaccine is approved. The public is expected to believe that the vaccine was created, and then passed the approval process, in less than a few months—and, moreover, that the vaccine even works!
- ◆ Tekmira Pharmaceuticals began the first phases of tests on its anti-Ebola drug in January 2014—months before the first reported Ebola outbreaks in Sierra Leone. To develop the drug, Tekmira was given \$140 million by the US Department of Defense and \$1.5 million by Monsanto.
- ◆ The US government has a viral fever bioterrorism research laboratory in Kenema, West Africa, one of the locations of the Ebola outbreak. The World Health Organization and other United Nations agencies have also been “testing” in African nations.
- ◆ On October 26, 2009, the US government filed for Patent # CA2741523A1, for the hEbola virus (“Ebola” with the prefix “h”) that contained a particular set of nucleotide sequences. The patent was awarded in 2010. Patents are not awarded unless the creation is new; so this strain was obviously genetically engineered. (As of this writing, 368 mutations of the Ebola virus are known.) Why would someone develop a weaponized pathogen—unless drugs were also being developed to combat this new patented strain? The patent also claims ownership of any “weakened” or “killed” Ebola viruses—in other words, the very substances that are used to make vaccines! This means that even more insidiously, this ownership also extends to the *blood* of all those infected with this virus. So, technically and legally, anyone suffering from Ebola is now the government's property. The US government can use this ownership as a legal excuse to stop any other research for Ebola treatments. Significantly, the patent also states that this strain of Ebola was deposited with the CDC, which owns many labs and offices that are based in the US.
- ◆ The US president's executive order, “Revised List of Quarantinable Communicable Diseases,” permitted the government to apprehend anyone it says carries the virus (ostensibly to prevent the spread of a communicable disease). “This means,” writes Joachim Hagopian of the Centre for Research on Globalization, “that anyone with respiratory problems that might include bronchitis, COPD or pneumonia can potentially be rounded up at any time. This disinformation of protecting people under benign pretense is the deceptive bait by which the totalitarian police state closes in on its stranglehold of the American populace. Every week the government is ratcheting up conditions ripe for the next manufactured crisis on domestic soil that will ultimately pave the way for martial law and the . . . roundups of American citizens. . . . [The] CDC asserts that any healthy American can be detained as well, based on mere suspicion that he or she might have come into contact with an infected person.”⁶⁵
- ◆ Many medical as well as political anomalies indicated that the recent outbreak was completely manufactured—and that it wasn't as dangerous as one might believe. A few doctors (quoted only in the alternative media) noted the lack of typical Ebola symptoms—bloody eyes and ears, and bleeding from the skin—in those who died. Public photos of bloody blistered skin were suspected to be from previous outbreaks. In some ways, this new GE virus appeared similar to the flu: fever, headache, muscle pain, weakness, diarrhea, abdominal pain and vomiting, with only a few Ebola-like symptoms such as severe sore throat, rash, and gastrointestinal bleeding. As of this writing, the number of deaths from Ebola have been minimal compared to the number of deaths from malaria, tuberculosis, and other diseases that have plagued Africans for decades. Nevertheless, it's always wise to take preventive measures. Fortunately, there are successful natural cures that do not involve dangerous vaccines or pharmaceuticals. These protocols include Vitamin C, ozone, and various immune-supporting herbs. See the Ebola entry for protective measures to take, along with some remedies for prevention and treatment.

The drug Tamiflu® was synthesized to supposedly mimic the effects of shikimic acid, an antiviral substance occurring naturally in some plants (see Insert, “Natural Substances That Kill Viruses and/or Support Immune Function,” on page 828). However, the drug caused blackouts, epileptic seizures, hallucinations, and even suicides in children. After taking the drug, 12 Japanese children died. Japan banned the drug; but in the US it’s still promoted, despite at least three children’s deaths in 2018 (two of them suicides). “At \$100 per dose,” Dr. Joseph Mercola wrote, “the US used taxpayer’s dollars to purchase some 20 million doses of the highly questionable Tamiflu®, lining the pockets of then Defense Secretary Donald Rumsfeld who was president of Gilead Sciences when they created the drug.”⁶⁶

becoming so numerous, and manifest so many different symptoms, that one strain often has several names and their classifications are confusing.

Contrary to popular belief, the different kinds of *Herpes* viruses do not necessarily stay in “their own” location. They can, and do, migrate to other parts of the body, even though the sores may not be as recognizable once they’re away from their customary area. So if, for example, you have sores on your mouth, don’t engage in oral-genital contact mistakenly believing that your oral *Herpes* won’t affect someone else’s genitals. You might infect your partner! If one set of frequencies doesn’t work, try others.

Herpes can be controlled with diet. During active outbreaks especially, avoid all grains including corn; peas, beans, peanuts and other legumes; chocolate; coffee; and all nuts and seeds (especially cashews). These foods contain high levels of the amino acid arginine, which encourages the virus to replicate. The virus also feeds on sugars, including the fructose in fruit. For persistent infections, abstain from these foods until immune function improves.

Supplement with lysine (an amino acid); it retards viral growth. It may help even more if given preventively over a period of time before, rather than during, outbreaks. A 1987 clinical trial concluded that a 1000 mg (1 gram) dose of L-lysine, taken 3 times a day for 6 months, “appears to be an effective agent for reduction of occurrence, severity and healing time for recurrent HSV infection.”⁶⁷ However, this may pertain only to nonimmunocompromised hosts. Note that less potent doses of lysine are not effective. Some studies using under 1000 mg per day of lysine found that it had no effect in preventing outbreaks, and then used this data to justify reporting that lysine doesn’t work at all!

You can also apply liquid iodine (a vital nutrient that kills pathogens), diluted first in jojoba or another mild oil, onto the sores until scabs form. Selenium inhibits the viruses from reproducing; lithium orotate slows the formation of the viral capsid; and Vitamin A, Vitamin C, and zinc support the immune cells.

Various *Herpes* viruses have been seen in cases of cancer, but no direct causal relationship has been proven. When cancer cells are present and dividing wildly, the body may be more prone to infection. Recent medical research indicates that *Herpes* Type 6 is prevalent in aggressive breast cancer. *Herpes simplex* 1 and *Herpes simplex* 2 have been found in many cases of cervical cancer. And a large percentage (25% or higher) of people with Hodgkin’s Disease are also afflicted with *Herpes* Virus Type 3.

Whatever strain of *Herpes* you have, try the general frequencies and do the sweeps. For the frequency 1550, sweep from 1549 through 1553. Also see “*Herpes* Virus Type 3 / *Herpes zoster* / Chicken Pox / Varicella / Shingles.” Because *Herpes* migrates out of its “own” region, Jimmie Holman’s frequencies are worth trying.

Important: *Not enough time per frequency can stimulate a dormant Herpes virus to replicate. To ensure devitalization instead of exacerbation, stay on each frequency for 15 or even 20 minutes, especially if you’re using equipment that isn’t manufactured by Pulsed Technologies.*

Single Frequency Experimental Set

One experimenter applied this frequency for one hour, then applied Vitamin E, and later reported a complete clearing within a couple of days.

37K

Cytomegalovirus (CMV) or Salivary Gland Virus

See “*Herpes* Virus Type 5 (Human *Herpes* Type 5) / Cytomegalovirus (CMV) / Salivary Gland Virus” in this section.

Herpes simplex 1

Causes cold sores in the mouth. However, *Herpes simplex* 1 can gravitate elsewhere—such as to the genitals, where it has been linked to cervical cancer. Except for 2950 (run for 20 minutes), run each of the following frequencies for at least 6 minutes.

From Dr. John Garvey: 725, 2432, 243, 6353, 732, 844, 646

Sweep 646–664, remaining on each frequency for 1–2 minutes.

Also try: 1488 (for at least 15 minutes) and 2950 (for at least 20 minutes)

Dr. Marty Monahan says that he runs the same numbers for all *Herpes* strains: 144, 274, 344, 423, 450, 522, 571, 624, 762, 6545

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz sets:

291250 (lowest), 292K (optimal), and 293050 (highest)

345350 (lowest), 345500 (optimal), and 345760 (highest)

Hz sets:

721.94 (lowest), 723.80 (optimal), and 726.40 (highest)

856.04 (lowest), 856.41 (optimal), and 857.05 (highest)

Also from Clark: 14537.82, 17201.43

Herpes simplex 2

Causes painful genital sores or lesions that can last for a few days or longer than one week. Often, the person feels a tingling along the nerves in the abdominal and pelvic regions just before an outbreak. *Herpes simplex 2* isn't necessarily restricted to the genitals. It may gravitate to the mouth.

This virus has also been found in many cases of cervical cancer. Set your machine to sweep between 804 and 824 for at least 25 minutes because every increment has been used for this strain.

From Dr. John Garvey: 725, 1230, 245, 314, 965

Dr. Marty Monahan says that he runs the same numbers for all *Herpes* strains: 144, 274, 344, 423, 450, 522, 571, 624, 762, 6545

Sweep: 800–850, remaining on each frequency for 1–2 minutes.

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 353900 (lowest), 355K and 360K (optimal), 362900 (highest)

Hz set: 877.23 (lowest), 879.96 and 892.35 (optimal), and 899.54 (highest)

Use all the frequencies of a given set, as this microorganism is extremely difficult to eradicate.

Also from Clark: 17923.34, 17674.41

Herpes simplex 2, More

360, 373, 528, 685, 540, 665, 716, 717, 718, 731, 732, 733, 776, 846, 880, 888, 1402, 8778

Herpes simplex, more, unspecified

From Dr. John Garvey: 322, 343, 476, 808, 822, 843, 1043, 1614, 2062

Herpes Virus Type 3 / Herpes zoster /

Chicken Pox / Varicella / Shingles

The general public used to know this as chicken pox or *Varicella* (also the name of the microbe), a highly contagious viral disease caught mainly by children. Symptoms include spots, blisters, and scabs on the skin. However, more recently this virus has received publicity as the cause of shingles, a very painful condition of inflamed nerves along the skin. It affects more adults than children. In fact, shingles tends to erupt in adults who either haven't had chicken pox as children, or (more

Homeopathy to Prevent Genital *Herpes*

Most of the time, just before the lesions appear, the virus causes a sharp or stabbing pain, pinching, or a tingling along some nerves—felt chiefly in the abdomen or genital region. It's possible to prevent an outbreak if, within 15 or 30 minutes (but no longer) of this warning sign, you use homeopathy. Take one or two pellets of *Natrum muriaticum* (Nat. Mur.), dose 30C, every 4 hours while the tingling or other nerve symptoms are still active.

commonly) have received the chicken pox vaccine. Before invasive medical intervention (vaccination), children contracted chicken pox, their immunity was established, and they didn't have to worry after that about becoming infected by *Varicella* or any of its mutations. A large percentage (25% or higher) of people with Hodgkin's Disease are also afflicted with *Herpes Virus Type 3*.

See "*Varicella* / Smallpox" in this section, as sometimes the two diseases can mimic each other.

From Jimmie Holman. Deliver frequencies in precisely the order written. They might not work on units other than those manufactured by Pulsed Technologies. 65657.25, 65656.25, 65655.25, 65313.5, 65312.5, 65311.5, 65094.75, 65093.75, 65092.75, 39394.75, 9393.75, 39392.75, 39188.5, 39187.5, 39186.5, 39057.25, 39056.25, 39055.25

From Dr. Richard Loyd: 466, 898

From Dr. John Garvey: 111, 392, 574, 633, 714, 766, 787, 837, 1220, 1557, 1675, 2664, 3343, 3806, 6230, 8225

Dr. Marty Monahan says that he runs the same numbers for all *Herpes* strains: 144, 274, 344, 423, 450, 522, 571, 624, 762, 6545

Herpes Virus 4 (Human Herpes Virus 4) /

Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS)

Names for this debilitating condition are used interchangeably. Symptoms include fever, headache, sinus congestion, aching muscles, enlargement of lymph nodes in neck, digestive disturbances, weakness, impaired memory and cognition, sleep disturbances, irritability, anxiety and depression, sensitivity to heat and light, and recurrent respiratory infections. Children and young adults are infected more easily than adults.

This syndrome has many causes, including viruses administered in one of the polio vaccines. For 35 years, CFS was known as myalgic encephalomyelitis before the Centers for Disease Control renamed it in 1988. Dr. Lawrence Klapow found adults and

Spend Enough Time Rifting for Herpes

Not enough time per frequency can actually stimulate a dormant *Herpes* virus to replicate. To ensure devitalization instead of exacerbation, stay on each frequency for 15 or even 20 minutes.

larvae of a new roundworm species, provisionally named *Cryptosporogylus pulmoni*, in the sputum of almost half of chronic fatigue sufferers, compared to a finding of zero in a control group. The parasite reproduces in the lungs. Its larvae burrow into the intestinal tract and migrate back to the lungs, where they reach adulthood and continue the cycle.

The term “chronic fatigue,” when not specifically referring to a condition caused by the Epstein-Barr virus, is vague. One may be “chronically fatigued” due to any number of conditions that are caused by many different pathogens. These pathogens can be found under **VIRUSES**, under **BACTERIA**, under **CANDIDA, FUNGI, MOLDS AND YEASTS**, and under **PARASITES, PROTOZOA AND WORMS**. Specifically see **BACTERIA**, “*Mycoplasma*,” because these microbes lack cell walls and invade the cellular structure of the host (which can make it difficult to eradicate them). Also see **BACTERIA**, “Brucellosis / Brucelliasis / Undulant Fever.”

Low energy is involved, so see **GLANDS, Thyroid**, “Thyroid, Underactive / Hypothyroidism” as well as **GLANDS, Adrenals**. Check for anemia and for mercury poisoning from silver-mercury fillings.

Epstein-Barr is often prominent in some forms of cancer, so also see, under **CANCER**, “Breast Cancer”; “Hodgkin’s Disease / Lymphogranuloma, Malignant”; and “Leukemia.” See frequencies for nerve pain and function under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS** and **REGENERATION AND HEALING**. Vigilant rifting is indicated, along with liver detox and immunity building. It can take a long time to overcome this condition.

444, 2323, 669 (all from Dr. John Garvey), 663 (sweep 663–669), 660 + 690 + 727, 386K

Dr. Marty Monahan says that he runs the same numbers for all *Herpes* strains: 144, 274, 344, 423, 450, 522, 571, 624, 762, 6545

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 372500 (lowest), 375K and 380K (optimal), 382350 (highest)

Hz set: 923.34 (lowest), 929.53 and 941.93 (optimal), and 947.75 (highest)

Use all the frequencies of a given set, as this microorganism is extremely difficult to eradicate.

Also from Clark: 18919.09, 18670.15

Also try (for various secondary infections and pain relief): 1.1 + 73, 4.9, 6.3 + 148, 20, 27.5 + 220 + 410, 35, 72, 95, 105, 120, 125, 172, 253, 274, 330, 424, 428, 444 + 1865, 465, 738, 744, 776, 778, 787, 788, 802 + 1550, 1800, 825, 880, 1013, 1032, 1920, 2127.5, 2720, 10K, 6618, 8768, 40K

Herpes Virus Type 5 (Human Herpes Type 5) / Cytomegalovirus (CMV) / Salivary Gland Virus

Affecting mostly infants and small children, it’s sometimes called Cytomegalic Inclusion Disease (CID). Causing fatigue and respiratory symptoms, it’s associated with stillborn, premature or low birth weight infants, and infections of the liver, kidney, lung, pancreas, adrenals, thyroid, salivary glands, gastrointestinal tract, and central nervous system. It can remain latent in the body for a long time, eventually causing severe cancers such as leukemia and lymphoma. This virus may be related to forms of mononucleosis not caused by *Herpes Virus Type 4*. From Dr. John Garvey: 83, 235, 645, 2323, 3432, 4093, 5532

More from Dr. John Garvey: 2145, 12537, 41514, 47425, 47524, 48576, 48586, 48587, 48765

From Michael Tigchelaar: 126, 597, 629, 682, 1045, 2144, 2145, 2146, 8848, 8856

From Dr. Hulda Clark: 20362.91, 1013.81

From Dr. Richard Loyd: 466

Dr. Marty Monahan says that he runs the same numbers for all *Herpes* strains: 144, 274, 344, 423, 450, 522, 571, 624, 762, 6545

Herpes Virus Type 6 / Human Herpes Type 6

It’s unclear what Type 6 symptoms are, but new research indicates that women with breast cancer may have harbored this virus for a while before manifesting tumors. See **CANCER**, “Breast Cancer,” and “Epstein-Barr Virus / Infectious Mononucleosis / Chronic Fatigue Syndrome (CFS) / *Herpes Virus 4 (Human Herpes Virus 4)*” in this section, because medical research shows the presence of Epstein-Barr in aggressive breast cancer.

From Dr. John Garvey: 183, 702, 747, 2245

Dr. Marty Monahan says that he runs the same numbers for all *Herpes* strains: 144, 274, 344, 423, 450, 522, 571, 624, 762, 6545

Also try: 228, 1820, 3640.1, 7281

Herpes Type C

It’s unclear how Type C manifests—new viruses are constantly being discovered—but recent research indicates that people with cancer may have harbored this virus for a while before manifesting tumors.

395, 424, 460, 533, 554, 701, 745, 2450

HIV (Human Immunodeficiency Virus) / AIDS (Acquired Immune Deficiency Syndrome)

The immune cell CD4+ T lymphocyte is destroyed by HIV, allowing so-called opportunistic infections to occur. These include lymphoma, Kaposi's sarcoma, shingles and pneumonia, which if constant and severe can lead to death.

The origin, transmission, and even definition of AIDS is controversial. The US government once grouped AIDS into four different stages, depending on the lowest existing T cell count and the opportunistic diseases one contracts. But the statistics constantly changed, according to what illnesses the government included in the AIDS-related diseases category. For example, when cervical cancer was added to the list of opportunistic infections, the number of people afflicted with AIDS became higher.

In 1969, a transcript of "Hearings Before a Subcommittee of the Committee on Appropriations House of Representatives, 91st Congress, First Session" was released. In it, Deputy Director of Defense Research and Engineering Dr. Donald MacArthur requested funds to produce "a synthetic biological agent, an agent that does not naturally exist and for which no natural immunity could have been acquired."⁶⁸ In 1983, pathologist and pharmacologist Robert B. Strecker, and his attorney brother Ted, unearthed documents showing that the AIDS virus is a pathogen genetically engineered in a laboratory. In February 1999, Naval Academy graduate and attorney Boyd E. Graves uncovered government documents—including a 1971 Special Virus AIDS Flow Chart—containing a timeline of how, when, where, by whom, and to whom the virus was developed and administered.

HIV is a dangerous retrovirus with unique capabilities. Although everyone who has AIDS is HIV positive, not everyone whose bloodstream contains HIV antibodies has AIDS. In fact, some doctors consider it a good sign that someone has produced high numbers of antibodies to a virus; it's a sign that the immune cells are working properly. Poor diet, so-called recreational drugs, benzene, and fluoride make the system susceptible to many of the infections under the AIDS umbrella.

Look for frequencies pertaining to the affected system or organs. See "*Herpes Virus Type 5 (Human Herpes Type 5) / Cytomegalovirus (CMV) / Salivary Gland Virus*" under **Herpes, all types** in this section; and applicable entries under **CANCER**. Also see **BACTERIA**, "*Mycoplasma*, many types," because *Mycoplasma* infection often triggers autoimmune conditions. Finally, see the various liver fluke listings under **PARASITES, PROTOZOA AND WORMS**, as Dr. Hulda Clark reported liver flukes clogging the thymus (where T cells are made) in autopsies of people who died of HIV-related illnesses. Always use 2489 and 464.

From Dr. Marty Monahan: 444, 528, 683, 714, 830, 450, 727

From Dr. Hulda Clark for HIV: 365K or 904.74 (for units unable to reach the kilohertz range) and 18172.28

1.2 + 250, 1.44, 20, 72, 95, 125, 200, 238, 249, 333 + 523 + 768 + 786, 418, 428, 440, 444 + 1865, 448, 450, 464, 522, 590, 600 + 625 + 650, 660 + 690 + 727, 683, 685, 700, 714, 760, 776, 780, 787, 802 + 1550, 804 to 813, 830, 832, 880, 1K, 1113, 1489, 1500, 1600, 1800, 2008, 2127.5, 2170, 2420, 2489/2490, 2625, 2720, 1570, 1770, 2K, 3K, 3040, 3140, 3175, 3275, 3375, 3475, 3554, 31K, 3100, 6121, 31750, 34750, 5K

Kaposi's Sarcoma

Blotchy skin lesions that often appear with AIDS.

249, 418 (both from Dr. John Garvey), 647

Influenza

Influenza—popularly known as the flu, and sometimes the gripe—causes very unpleasant respiratory and gastrointestinal infections. Symptoms include coughing, muscle and head aches, fatigue, fever, chills, sore throat, nasal discharge, and sometimes abdominal cramping and diarrhea. Some of these viruses (such as Influenza A) are found in many different animals (including ducks, chickens, pigs, whales, horses and seals), while others (such as Influenza B) are found only in humans.

Classifications for the hundreds of influenza viruses are somewhat arbitrary. They're based on the proteins on the viral surface, notated according to year, location or prominent symptom. Sometimes they are simply given a letter. These viruses constantly mutate, usually each year. So not only is it impossible to predict frequencies for future outbreaks, it can be problematic to manage a current one. Therefore, if individual frequencies don't work for you, use the sweep function on your rife machine to encompass a range of numbers.

See Insert, "Natural Substances That Kill Viruses and / or Support Immune Function," on page 828. A study performed in Japan between December 2008 and March 2009, which was reported in the *American Journal of Clinical Nutrition*, showed that children taking Vitamin D3 were 58% less likely to contract the flu. The vitamin also lessened the number of asthma attacks in children with a history of asthma.⁶⁹

Frequencies below are from Richard Loyd. He calls it the "Cold Flu Coronavirus Adenovirus RSV program":

20, 72, 120, 125, 152.2, 155, 250, 278, 304, 304.4, 309.9, 315.5, 333, 336, 400, 440, 444, 456.5, 464, 464.9, 465, 472.50, 487, 512, 523, 550, 552, 608.7, 619.9, 654, 666, 683, 712, 720, 725.75, 727, 728, 760.9, 768, 774.8, 776, 786, 787, 800, 802, 821, 836, 850, 870, 875, 880, 885, 886, 941.93, 946, 959, 962, 975.98, 959, 962, 995, 1217.5, 1234, 1239.7, 1369.6, 1394.7, 1500, 1550, 1674, 1947, 2008, 2050, 2435, 2479.5, 2720, 3672, 4400, 4870, 4888, 4959, 5K, 5500, 7344, 7500, 7728, 7760, 7762, 7764, 7766, 7767, 8210, 8700, 9740, 9918, 12500, 18919.09, 40K, 120K, 313350, 320K, 615K

RSV short set (Loyd): 487, 654, 995

Leishmania Virus

There is evidence that the *Leishmania* virus inhabits the *Leishmania* protozoan and is part of the pathogenic effects of the protozoan.

"New World" Leishmania Virus

428.3, 856.6, 1713.1

"Old World" Leishmania Virus

431.8, 863.6, 1727.2

Lyssavirus / Rabies

Rabies attacks the nervous system. Symptoms in humans include fever, irrational behavior, and violent spasms of the throat made worse by the sight of water (giving the disease another name, "hydrophobia," or fear of water). Usually transmitted through a bite or scratch by an infected animal, the virus may now also be airborne. Animals exhibit odd or aggressive behavior, continual growling or other vocalizations, and/or frothing around the mouth.

The incubation period (time between exposure to the virus and onset of symptoms) can be a few days to several years, but onset of symptoms usually occurs between three and eight weeks. The incubation period depends on the severity of the wound, the location of the bite, and the person's immunity (and hence, susceptibility to infection).

Some holistic professionals and even mainstream scientists report statistically significant numbers of infected people who are untreated yet remain healthy. According to some data, only one in ten people bitten by a rabid animal actually develops rabies. Also, there's evidence that some cases of what we call "rabies" are actually other neurological conditions. A few practitioners treat rabies solely with homeopathy—either with a complicated protocol of specific remedies, or a dose of rabies nosode (a safe homeopathic version of a vaccine). Nevertheless, allopaths insist that rabies can be fatal if not treated with pharmaceuticals; and I would be irresponsible if I failed to advise anyone bitten by a rabid animal to go to the emergency room immediately for rabies shots. The shots are administered *after* a suspected infection, and are different from a (supposedly preventive) vaccine.

Read the portion on rabies in Chapter 1, **The Vaccine Controversy**. See **INSECT BITES** for theoretical ideas on how to manage the toxins in the body. Consider the possibility of meningitis and other neurological infections, so also see **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

20, 120, 547, 660 + 690 + 727, 787, 793, 808, 880

Meningococcus Virus / Meningitis

720

Mycoplasma Virus P-1

388.6, 543.6, 777.2, 1087.2, 1554.5, 2174.3, 3109, 4348.6, 6217.9

Norwalk Virus

A subset of calicivirus, highly contagious Norwalk lives in contaminated water and food, causing abdominal pain and cramping, vomiting, diarrhea, and fever. Illness can last several days, affecting children and adults. Frequencies below are general; for specifics, go to dnafrequencies.com. 776, 787, 802 + 1550, 832, 840, 880, 1570, 1998, 2008, 2052, 2127.5, 2489, 2490, 5K

Papilloma Virus / Human Papilloma Virus (HPV)

Causes warts and benign skin tumors with branches or stalks, and sometimes white patches. Vaccine producers claim that HPV is a major cause of cervical cancer, but offer little proof. Rather, when cancer cells are present and dividing wildly, the body may be more prone to HPV infection. Remember that viruses don't necessarily stay in their "own" region; so try numbers for other strains.

From Dr. Richard Loyd: 40, 320, 570, 850, 857, 874, 907, 30250, 173210, 301800, 402850, 410700, 475470, 2976935

From Dr. Marty Monahan: 466, 874, 907, 1003, 1008

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 404700 (lowest), 405K (optimal), and 406750 (highest)

Hz set: 1003.15 (lowest), 1003.89 (optimal), and 1008.23 (highest)

Also from Clark: 20163.76, 20128.91, 1002.16

Paramyxovirus

This large group of viruses encompasses smaller subgroups of pathogens that cause the measles, mumps, bronchitis, pneumonia, croup, and the flu in humans. Paramyxoviruses are also involved in a range of diseases in animals: canine distemper, phocine (seal) distemper, cetacean (dolphin and porpoise) morbillivirus, Newcastle disease virus (in birds), and rinderpest virus (in cattle).

From Michael Tigchelaar: 126.4, 139.4, 278.8, 505.6, 557.5, 1011.2, 1115.1, 2022.3, 2230.1, 4044.7, 4460.2, 8089.4, 8089.5, 8920.5

Parvo Virus

All parvo symptoms are similar, whether the strain affects only dogs or dogs and humans: diarrhea, inflammation of the gastrointestinal tract, malabsorption, and lethargy.

Parvo's arrival coincided with vaccine manufacturing. To produce the distemper vaccine, drug manufacturers cultivated it from the kidneys of cats infected with feline panleukopenia virus (FPV). Canine parvovirus is very similar to FPV—in fact, parvo was classified as a mutation of FPV just after it first appeared circa 1978! After dogs were injected with distemper vaccines, parvo became widespread. Veterinarian Deva Khalsa writes: "When I entered veterinary school in 1976, parvovirus

disease in dogs didn't exist. No dogs were presented to the University of Pennsylvania School of Veterinary Medicine (UPSVM) infected with parvovirus until 1978. . . . the sudden and devastating outbreak of parvo was because the feline panleukopenia virus (FPV) that had long been present in dog vaccines mutated to a form that could jump species and infect dogs! . . . It makes sense that the symptoms of feline panleukopenia are very similar to parvovirus symptoms in dogs."⁷⁰

Experienced breeders of naturally reared (NR) dogs (raw fed and never vaccinated) rarely have problems with parvo, due to the superior immunity that the mother dogs confer to their young. If a puppy does contract parvo, fluids are given intravenously and rectally, as canine deaths from parvo are chiefly due to dehydration. Most NR puppies and dogs survive, proof that parvo does not have to be a death sentence.

I would rely on more than the frequencies below. Administer colloidal silver (on an empty stomach).

Parvo Virus, Canine only

First try (from Dr. John Garvey): 323, 562, 622, 4027

Also try: 185, 188, 323, 428, 433, 488, 514, 535, 562, 613, 622, 637, 755, 1K, 2257, 4027

Parvo Virus, Canine, Type B

Affects only dogs.

First try (from Dr. John Garvey): 323, 535, 755

Also try: 488, 514, 535, 613, 755, 761, 764, 766, 768 (sweep between 755 and 768), 2257

Parvo Virus, Canine and Human

Affects humans as well as dogs.

185, 323, 514, 535, 562, 613, 622, 755, 1K, 4027

Respiratory Syncytial Virus (RSV)

This is the most common cause of pneumonia among infants and very young children, characterized by fever, runny nose, cough, and sometimes wheezing. RSV can also cause infections throughout life, especially among the elderly or those with compromised cardiac, respiratory, or immune functions.

From Dr. Richard Loyd (short set): 487, 654, 995

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 378950 (lowest), 380K (optimal), and 383150 (highest)

Hz set: 939.32 (lowest), 941.93 (optimal), and 949.73 (highest)

Also from Clark: 18919.09

Also try: 1647, 2528, 2542, 3448, 4763

And then try: 278, 336, 712

Retrovirus, variants

Inserting their genetic codes directly into the host cell chromosomes, retroviruses cause the host cells to make copies of them whenever the host cells replicate. These general frequencies are unproven. However, 40K is worth running as it restores voltage to tissue.

465, 448, 660 + 690 + 727, 787, 800, 880, 2489, 40K

Rhinovirus

704, 774.9, 813.3, 8240.5, 865 (from Dr. Richard Loyd), 1041.1, 1168.0, 1190.7, 1193.2, 1256.6, 1267.1, 1270.5, 1272.1, 1385.9, 1387, 1390, 13950.5, 1400.1, 1402.7, 2217.7

Rotavirus

From the *Reoviridae* family, the Rotavirus is the most common cause of viral gastrointestinal problems in North America in very young children (usually occurring between the ages of three months and three years). Diarrhea is often accompanied by fever and vomiting, and lasts for a few days to one week. Dehydration can become a serious problem due to fluid loss, so drink plenty of water.

From Dr. Richard Loyd: 666. Also sweep from 665–667

Also try these general antiviral frequencies: 776, 787, 802 + 1550, 832, 840, 880, 1570, 1998, 2008, 2052, 2127.5, 2489, 2490, 5K

Rubella / German Measles / 3-day Measles

Caused by *Rubella*, a virus in the *Togaviridae* family. Contagious but much milder than regular measles, it usually erupts in children. Symptoms include a skin rash, headache, sore throat, and perhaps fever. Its name, unrelated to the country Germany, probably comes from the Latin *germanus* which means "similar." This refers to the similarity between measles, German measles, and the mumps (even though each is caused by a different virus). Pregnant women should avoid exposure because *Rubella* can cause birth defects or miscarriage during the first trimester.

431, 517, (both from Dr. John Garvey), 20, 342, 344 + 510 + 943, 368, 420 to 465, 459, 520, 660 + 690 + 727, 734, 772, 784 to 787, 796, 880, 967, 1489

Rubeola / Measles

Caused by *Rubeola*, a microbe in the Paramyxovirus family (related to the mumps virus). Highly contagious and usually erupting in children, symptoms include fever, runny nose, coughing, sneezing, fatigue, and a skin rash with lesions. Don't confuse this with German measles.

467, 520, 1489 (all from Dr. John Garvey), 333 + 523 + 768 + 786. 342, 442, 443, 521, 529, 552, 660 + 690 + 727, 712, 745, 757, 763, 784, 787, 880, 962

Rubulavirus / Mumps

Usually a childhood disease, caused by the contagious Rubulavirus microbe in the Paramyxovirus family. Familiar symptoms are swelling of the salivary glands, in the neck between the jaw and ear. Other symptoms include head, ear and muscle aches; fever; dry mouth; fatigue; loss of appetite; sensitivity to light; and hearing difficulties.

Adult males who develop mumps may have fertility problems. Adult females may miscarry. A rare inflammation of the brain or spinal cord may develop, so also see “Meningitis” and “Encephalitis” under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

242, 516, 642, 922, 2630, 3142 (all from Dr. John Garvey), 14, 20, 152, 190, 253, 428, 660 + 690 + 727, 674, 787, 880, 1243, 1660, 2008, 2127.5, 2489, 2720

Simian Virus 40 (SV40)

Between 1954 and 1963, 98 million Americans received polio vaccines contaminated with a carcinogenic monkey virus known as Simian vacuolating virus 40 or SV40. In 1960, the medical community acknowledged that SV40 causes cancerous tumors in laboratory animals. The National Cancer Institute admits that SV40 plays a role in mesothelioma, an aggressive lung cancer. Researchers worldwide have found SV40 in adult human lung, bone, lymphatic, and brain cancers (astrocytomas, ependymomas, glioblastomas, medulloblastomas, and *papillomas* of the choroid plexus). SV40 has also been found in the cancers of some children too young to have received the contaminated Salk vaccine. SV40 comes from rhesus monkey cells, which despite their danger have been permitted to be used in the manufacture of the poliovirus and Adenovirus vaccines.

From Dr. Jeff Sutherland (run for at least 6 minutes each): 1344.45, 1344.43, 1413.46, 1876.13, 2642.24, 2962.14, 5543.65, 5631.24, 6346.71, 6653.86, 7635.45

Run these frequencies on higher range devices: 79333.9, 83173.3, 95443, 93806.5, 132112, 134443, 138591.3, 140781, 141346, 148107, 335175, 355436, 385643

Strep Virus

Is inside the “strep throat” bacterium *Streptococcus pyogenes*. 563, 611, 660 + 690 + 727, 727, 848

Swine Flu / H1N1

In early 2009, the World Health Organization (WHO) in the US warned the public to prepare for the so-called “level-six pandemic,” a bird-pig-human hybrid influenza virus called H1N1. Although total swine flu deaths for 2009 were lower than the number of human deaths from ordinary seasonal flu, this “preparation” meant hysteria and inoculations. Negative reactions from the vaccine (often within hours of injection) were reported

in France, Japan, Sweden, China, the US, and other countries. Injuries included the paralyzing Guillain-Barre Syndrome, which had resulted in 1976 from a similar vaccine and which the UK’s Medicines and Healthcare products Regulatory Agency publicly linked to the swine flu vaccine. Other injuries included thrombocytopenia (a pathological scarcity of blood platelets) and Bell’s Palsy (facial paralysis). In China, more than 1200 vaccinated people reported rashes, headaches, anal soreness, suddenly plummeting blood pressure, and anaphylactic shock. The Centers for Disease Control Advisory Committee on Children’s Vaccines reported an increase of over 700% of miscarriages among vaccinated pregnant women without admitting the cause. The CDC also urged inoculation for pregnant women even though fetal deaths in vaccinated women increased by 2440% in 2009 compared to previous years. Most people who died from swine flu, or who endured severe, often permanent damage, had been previously injected with the H1N1 vaccine.

No scientific studies existed proving that H1N1 vaccines worked, but vaccine manufacturers were legally protected from being sued for damages. In April 2010, the director of the national Center for Infectious Disease Research and Policy publicly admitted that flu shots don’t work in the elderly—even though two months earlier, a branch of the CDC had recommended that children as young as 6 months of age be vaccinated, and that elders over 65 years receive four times the normal dose.

The vaccines contained viral pieces and thimerosal, which causes inflammation, autoimmune disorders and brain damage. (Thimerosal, legally defined as hazardous waste, is not allowed to be discarded with regular garbage but is allowed to be injected.) The drugs also contained squalene, an oil that’s beneficial when rubbed on the skin but harmful when injected. Some people were concerned about the drugs being “contaminated” with other debris such as rotavirus material, but this is an oxymoron, as vaccines are by definition “contaminated.” See Chapter 1, **The Vaccine Controversy**.

Non-mainstream media questioned the wisdom and need for vaccines. Finally, corporate media—including ABC News, CNN, *The Washington Post*, *Time Magazine* and Fox News—publicized the truth about this non-emergency. A June 2010 report in the *British Medical Journal* revealed that five World Health Organization advisors had called the H1N1 flu a “level-six pandemic” to induce a fearful public to buy vaccines they didn’t need—thus financially enriching not only drug companies, but also the WHO advisors who were secretly receiving kickbacks. In the last three months of 2009, GlaxoSmithKline shipped \$1.4 billion worth of vaccines, paid for by citizens’ taxes—vaccines, wrote Mike Adams, that “will soon have to be destroyed (at additional taxpayer cost, no doubt) or dumped down the drain (where they will contaminate the waterways).”⁷¹ Despite relentless

publicity about this presumably dangerous disease, fewer than one-third of United States residents chose inoculation.

From Dr. Richard Loyd: 278, 332, 336, 413, 432, 462, 660, 709.2, 712, 776, 777, 787, 850, 1552, 18919.09, 2838.5, 5K, 1674K

From Michael Tigchelaar: Higher octaves 254K, 127500, 168K, 213K, 239K, 530K. Lower octaves 1867.1875, 1984.375, 1992.1875, 2070.3125

Other: 432 and 839 (Dr. Garvey), 413, 663, 995, 2625

Tobacco Mosaic Virus (TMV)

Affecting over 200 species of plants (including tomato, pepper, cucumber, melon, squash, and many flowers), this virus causes leaves to brown, curl, wrinkle, become rough or smaller than usual, and develop blotchy brown areas (mosaic-like mottling). Growth is often stunted and the produce has an abnormal flavor. The first virus ever identified, and highly infectious, the TMV is very stable and can survive for long periods on garden tools, clothing, and surfaces. Even insects can pass the virus from eating infected plants. Thoroughly wash non-plant items that have been exposed. Do not compost contaminated plants!

Bring your radiant plasma frequency machine outside and let it broadcast to the plants.

From Dr. John Garvey: 233, 274, 543, 782, 1052

Typhoid Virus

1862

From Royal Rife, possibly used on his #4 machine: 760K (rod form), 1445K (filter passing form)

Varicella

See “*Herpes Virus Type 3 / Herpes zoster / Chicken Pox / Varicella / Shingles*” under **Herpes, all types** in this section.

Variola / Smallpox

The *Variola* virus causes a severe infection known as smallpox. Symptoms include fever, headache, muscular and abdominal pain, vomiting, and skin lesions that are painful and blotchy. The skin eruptions can leave scars, so open up some Vitamin E capsules and continually apply it.

Secondary infections are often from bacteria that invade the virally-caused lesions. Also see “*Herpes Virus Type 3 / Herpes zoster / Chicken Pox / Varicella / Shingles*” under **Herpes, all types** in this section, because sometimes the two diseases can mimic each other.

From Dr. John Garvey: 476, 511, 876, 1644, 2132, 2544
Also try: 20, 141, 142, 143, 475, 477, 510, 512, 875, 877, 1643, 1645, 2131, 2133, 2144, 2145, 2543 (sweep 2131–2132, 2144–2145, 141–143, 2131–2133)

Then try: 334, 360, 471, 506, 542, 569, 647, 660 + 690 + 727, 711, 787, 802 + 1550, 832, 880, 1644, 3222

West Nile Virus

Flaviviruses, members of the *Flaviviridae* family, cause infections mostly spread by mosquitoes: Yellow Fever, Dengue Fever, St. Louis Encephalitis, Japanese Encephalitis, and Hepatitis C. West Nile was first identified in 1937 in the West Nile district of Uganda. Since then, the most notable outbreaks in humans (which usually are rare) occurred in Israel and South Africa; though the mid-1990s saw an increase of outbreaks in humans and horses in Romania, Morocco, Tunisia, Italy, Russia, the US, Israel, and France. The highest incidence occurred in Russia (942 cases). Only one in five infected people developed mild illness, and only one in 150 infected people—less than 0.00065 % of the entire population—developed brain inflammation (meningitis or encephalitis).

The milder symptoms, usually lasting three to six days, include abdominal pain, nausea, vomiting and diarrhea; fever; headache; muscle aches; loss of appetite; and sore throat. More severe, sometimes life-threatening forms, are sometimes called West Nile encephalitis or West Nile meningitis. Symptoms include muscle weakness, stiff neck, mental confusion, and loss of consciousness.

Researchers believe that West Nile is spread when a mosquito bites an infected bird and then bites a person. However, there's solid evidence that the disease proliferates in areas that spray pesticides and chemtrails into the air. The following frequencies are experimental. 410.4, 412.4, 439.4, 820.7, 824.8, 878.8, 1641.5, 1649.6, 1757.5, 3283, 3299, 3515

Yellow Fever Virus

See “*Flaviviridae / Yellow Fever Virus / Yellow Fever / Yellow Jack / Black Vomit*” in this section.

Zika Virus

A relatively benign member of the virus family *Flaviviridae*, and related to the dengue, yellow fever, and West Nile viruses, Zika is transmitted by mosquitoes. Its name comes from the Zika Forest of Uganda, where it was first isolated in 1947. According to the CDC, this illness is usually mild. In fact, many subjects experience no symptoms at all. When symptoms do occur, they may include fever, rash, joint pain, and conjunctivitis (inflammation of the membrane coating, or conjunctiva, of the inner surface of the eyelids), which makes the eye red.

In May 2015, the Pan American Health Organization (PAHO) warned about a Zika virus outbreak in Brazil because women were giving birth to infants with a birth defect called microcephaly, characterized by an abnormally small head that results in developmental problems. However, the World Health Organization (WHO) admitted that any causal connection between microcephaly and the Zika virus was not demonstrated (despite the fact that it declared a global health emergency due to the virus). Data collected by pediatric cardiologist Sandra Mattos showed that more than 1,600 babies had

been born with mild microcephaly since 2012—a full four years before a Zika outbreak was widely publicized. Zika had never before been associated with birth defects, even in areas where 75% of the population was infected.

There are three probable causes of the microcephaly “epidemic,” either alone or in combination. First, the spreading of microcephaly coincided with a mass spraying of pyriproxyfen, a larvicide used to control mosquito populations. Manufactured by Monsanto subsidiary Sumitomo Chemical, the larvicide seeped into the water supply. Not surprisingly, the one region of Brazil in which pyriproxyfen was used suffered the most number of birth defects. Other areas of Latin America, which do not use the larvicide, have not been similarly afflicted. As of February 17, 2016, Brazil banned the use of pyriproxyfen—but not before a large number of human infants suffered severe birth defects. There may also be a second causal link between microcephaly and a new vaccine that all pregnant women are required to receive—the DTwP, or whole cell pertussis vaccine. (Some pregnant Brazilian women are encouraged to get the MMR vaccine as well.) The third causal relationship with the upsurge of the virus is the release of over 800,000 genetically engineered, sterile mosquitoes by the British company Oxitec—precisely in the region of Brazil that had the highest incidences of microcephaly.

Note that in 1947, the Zika virus was extracted from the blood of a Ugandan rhesus monkey, and deposited, by a J. Casals associated with the Rockefeller Foundation, into a laboratory products company, ATCC, which was selling the freeze-dried virus over the internet.

Despite the inconclusive link between the Zika virus and microcephaly, the media panicked over the damage that this suddenly dangerous virus supposedly causes. There are no publicly available frequencies for Zika, so go to dnafrequencies.com. As with any virus, Zika is not treatable with antibiotics. Rest, fluids, a chemical-free diet, and natural antivirals and immune support (see Insert on page 828) are the best treatments.

End of Viruses section.

VISION, TO SHARPEN

See under **EYES**.

VITILIGO

See “Leukoderma / Vitiligo” under **SKIN**.

VITILIGO

See “Vulvodynia / Vestibulodynia” under **WOMEN**.

VULVODYNIA

See “Vulvodynia / Vestibulodynia” under **WOMEN**, *Vagina, Labia and Clitoris*.

—W—

WARTS, ALL TYPES

See under **SKIN**; and “Wart, Venereal / Condyloma” under **MEN**, *Penis* or **WOMEN**, *Vagina, Labia and Clitoris*.

WATER RETENTION

See “Lymphedema / Edema / Dropsy / Water Retention” under **LYMPHATIC SYSTEM**.

WAX IN EAR, EXCESSIVE

See under **EARS**.

WEIGHT, EXCESSIVE

See **OBESITY / OVERWEIGHT**.

WERLHOF’S DISEASE

See “Thrombocytopenic Purpura / Werlhof’s Disease” under **HEART, BLOOD AND CIRCULATION**.

WEST NILE VIRUS

See under **VIRUSES**.

WHEAT SMUT

See “*Ustilago tritici* / Wheat Smut” under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

WHINING AND IRRITABILITY

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

WHIPLASH

See under **INJURIES**.

WHOOPING COUGH

See under **RESPIRATORY TRACT**, *Lungs*. Or see “*Bordetella pertussis* or *Bordetella parapertussis* / Whooping Cough” under **BACTERIA**.

WOLHYNIA FEVER

See “*Bartonella quintana* / Bartonellosis” under **BACTERIA**.

WOMEN

Female and male genitals evolve from the same embryological tissue. This makes them *homologues*: they correspond in structure, character, and usually function. The following body parts are homologues: the male penile glans and female clitoral glans; the male corpora cavernosa and female clitoris; the male corpus spongiosum and female vestibular bulbs beneath the labia minora; the male scrotum and female labia minora and labia majora; and the male foreskin and female clitoral hood. Women’s reproductive systems are more complex however, as they are built to carry children and give birth.

Not all women want to bear children or be mothers (nor should they feel obliged to), but birth control pills, popular in technologically advanced countries, are a poor choice

because they radically alter body functions. Normally, a woman ovulates when FSH (follicle stimulating hormone) from the pituitary gland stimulates the development of an egg in the ovary; the egg follicle (sack surrounding the egg) secretes estrogen; and the estrogen stimulates the uterine lining to prepare itself for a fertilized egg. As the estrogens increase, FSH output decreases, and the pituitary then secretes LH (luteinizing hormone), which stimulates ovulation, or the ejection of the egg from the ovary. Most birth control pills contain synthetic progesterone (progestin) and estrogen. These hormones deceive the body into thinking it is pregnant by flooding the system with excess hormones. The high progestin level inhibits secretions of the two pituitary hormones so that no new egg follicles develop and no ovulation occurs. Progestin also decreases the amount of endometrial tissue in the uterus so that an egg cannot implant. It's much safer, and less confusing to the body, if mechanical forms of birth control are used such as condoms, a cervical cap, or a diaphragm.

Breasts

Breasts are comprised of fat, with some connective tissue and ligaments. Although historically the female breast has been an object of (mostly male) adoration and obsession, it deserves the most credit for providing the perfect food for a nursing infant: milk, with an ideal ratio of fats, proteins, and carbohydrates. Each breast contains mammary glands that produce milk when stimulated by the hormone prolactin. For a few days before gradually producing a higher ratio of milk, the breast secretes colostrum, a rich fluid that promotes immunity in a baby. This is why it's so important for babies to nurse.

The breast contains many lymph nodes that drain into the armpit. The tissue must move freely so that wastes don't accumulate; otherwise, there will be problems (including cancer). Breasts tend to sag as women age (the ligaments that hold them up elongate), but wearing a brassiere restricts the lymph flow and in fact accelerates sagging.

Men's and women's breasts, having embryologically evolved from the same tissue, are identical in structure and function. Male breasts are simply smaller, with less developed mammary glands. Both sexes have a large concentration of blood vessels and nerves in their nipples. Also see entries under **LYMPHATIC SYSTEM**.

Breast Cancer

See under **CANCER**.

Breast Inflammation / Mastitis

A bacterial infection is usually involved. Also see other entries in this **WOMEN** section, under **TUMORS, BENIGN**, and under **CANCER**, "Breast Cancer," because sometimes benign conditions can become malignant.

654 (from Dr. John Garvey), 698

Fibroadenoma of Breast

Non-cancerous fibrous nodules in the breasts. Eliminating caffeine in common foods like chocolate and coffee may shrink the tumor or eliminate it entirely. Also see **CANCER**, "Breast Cancer"; you don't want this benign tumor to become malignant. 1384

Fibroid Cysts in Breast

Fibrous tumor filled with liquid.

267, 660 + 690 + 727, 776, 787, 802 + 1550, 880, 1384

Fibroma

Composed of fibrous connective tissue. Even though a fibroma is benign, you may want to use cancer frequencies to make sure it does not turn malignant.

First try: 272, 273, 660 + 690 + 727, 2127.5

Also try: 465, 802 + 1550, 2008

Menstruation and Menopause

When a female reaches sexual maturity, her body releases one or more eggs during ovulation. If the egg has not been fertilized with male sperm by the time it reaches the uterus, it does not implant in the uterine lining. Instead, the rich blood supply—prepared for the possibility of pregnancy—begins to shed, and is eliminated through the vagina via menstruation (also called a "period" or "menses"). Usually when a woman misses her period she is pregnant. However, she might not menstruate if she's stressed or very underweight with a low percentage of body fat. Both circumstances can disrupt normal hormonal function.

During the mid 20th century, females reached sexual maturity around age 13, 14, or 15. But within the last two decades, many girls have experienced the abnormal onset of puberty as early as age 7 or 8. This is due mainly to estrogen disruptors present in modern-day plastics, and in meats from animals raised on synthetic hormones.

Menopause—also called "the climacteric," "change of life," or simply "the change"—is the stage of the human female reproductive cycle when the ovaries stop producing estrogen. This leads to scanty, and then a complete end to, menstrual periods, at which point the woman can no longer have children. As the body tries to adapt to the changing hormone levels, she may experience heart palpitations and variations in body temperature (day and night sweating), known as "hot flashes." Vaginal dryness and the need to urinate may increase. She may experience depression, anxiety, irritability, and lack of concentration. This process, which occurs between ages 45 and 55, can last from six months to more than five years. Menopause can be accelerated by serious illness, poisonous chemicals, autoimmune disorders, thyroid problems, and diabetes.

To manage the symptoms of menopause, some women take estrogen replacement hormones. However, unless

the estrogen is bio-identical (like what the body itself had produced), this can exacerbate her symptoms. Natural progesterone may work better. Caucasian women, particularly of European descent, may have an increased risk of osteoporosis. This can be managed by an increased intake of magnesium and essential fatty acids, as supplements or in dark leafy greens and fish oils.

Hormonal Imbalance

Check for nutritional deficiencies. Also see entries under **LIVER AND GALLBLADDER**, *Liver* because the liver processes and removes excess hormones. If the liver isn't operating efficiently, hormones can build up and become unbalanced in the body.

50.5, 537

Hot Flashes

When the ovaries no longer produce sex hormones (which occurs during menopause), the adrenal cortex will produce those hormones in small amounts. However, if there's a huge demand by the body, the adrenals can overcompensate and produce too much sex hormone. This can result in hot flashes, which make a woman's body temperature so erratic that she alternates between sweating and feeling chilled. The longer a woman has hot flashes before she finally ceases menstruating, the longer her hot flashes will continue after the end of her cycle.

Support the adrenals with adequate rest, gentle to moderate exercise, and good nutrition. See **GLANDS**, *Adrenals*, "Adrenal Glands, to Balance and Normalize," and other entries under **GLANDS**.

537, 660 + 690 + 727, 787, 880, 10K, 40K

Menstrual Cramps

When the uterus contracts more strongly than needed to push out unneeded menstrual blood, it presses against blood vessels. This restricts the oxygen supply to the uterine muscle tissue, further causing pain. Eat real food and exercise. To relax muscles, take extra magnesium and drink amaranth seed, chamomile, and especially raspberry leaf tea.

26

Menstruation, Absence of / Amenorrhea

Also check for nutritional deficiencies and hormonal imbalances.

20, 72, 95, 125, 146, 160, 333 + 523 + 768 + 786, 444 + 1865, 465, 522, 537, 555, 660 + 690 + 727, 760, 787, 802 + 1550, 880, 3K, 10K, 40K

Menstruation, General Conditions

Also check for nutritional deficiencies and hormonal imbalances.

From Jimmie Holman. Deliver the frequencies in precisely the order written. They might not work

on units other than those manufactured by Pulsed Technologies: 59520, 56320, 53248, 51328, 50368, 49600, 46528, 40960

Also try: 465, 537, 660 + 690 + 727, 787, 802 + 1550, 880

Menstruation, Painful / Dysmenorrhea

Also check for nutritional deficiencies and hormonal imbalances.

4.9, 26, 465, 537, 660 + 690 + 727, 787, 802 + 1550, 880

Sexual Function

The ability to sexually function is more than whether a woman can climax or a man can maintain an erection and ejaculate. It is also related to one's ability to show love and respect for others, to receive love, and to freely experience pleasure without guilt or shame.

Frigidity / Impotence, many types

The word "impotence," like the word "frigidity," has negative connotations. Socially and psychologically stigmatizing, it does not address the human aspect of sexual dysfunction: feelings of devitalization, powerlessness, and emotional distance—from oneself, others, and Source. To be impotent is to be robbed of one's life force.

Impotence is generally considered a problem for men and not women, because the masculine identity is most often associated with the "performance" of keeping the penis erect during sexual activity. However, when a woman is unable to climax and enjoy herself sexually, this is as serious a problem as when a man has difficulty. In a sexual union, each person should feel enjoyment, and connect to himself / herself as well as to the partner.

Physical components of sexual dysfunction include infection. Pathogens can be passed from one partner to the other even if a male is asymptomatic. The same microorganisms in both men and women can cause symptoms that lead to sexual dysfunction.

Get a thorough checkup. Psychological counseling may be advised, particularly in cases of sexual abuse, rape, and assault. Also see other entries in this huge section, and specifically "Gonorrhea" under *Vagina*, *Labia* and *Clitoris*. Finally, see various entries under **LIVER AND GALLBLADDER**, *Liver* because the liver processes and removes excess hormones. If it's not operating efficiently, hormones can build up and become unbalanced in the body, which can lead to sexual difficulties (including the inability to climax). 1.1 + 73, 9.39, 9.4, 95, 20, 72, 95, 124, 125, 335, 465, 536, 600 + 625 + 650, 622, 660 + 690 + 727, 712, 787, 802 + 1550, 880, 2008, 2127.5, 10K, 40K (for as long as desired)

Infertility

Pollutants, chemicals, and environmental toxins such as plastics, herbicides, pesticides, and some drugs have radically decreased the sperm count in males of all species (and caused birth defects in the young). Less research has been done on the effects of toxins on women, although the drug DES is now banned because of the deforming effects on the developing embryo. Infertility has also been linked to estrogens that are routinely added to the feed of commercially-raised (non-organic) cattle and poultry. Electropollution also has a huge impact, especially if a cell phone is kept in a side pocket or one is constantly surrounded by electronics and WiFi. See “Frigidity / Impotence, many types” (above). Also see “*Ureaplasma urealyticum*” under **BACTERIA**.

Uterus, Cervix, Ovaries, and Fallopian Tubes

The uterus or womb is the “container for the baby” part of the female reproductive organs located in the pelvis, held in place by eight ligaments. The cervix is the lower, narrow portion or “neck” of the uterus, where the lower portion protrudes through the upper vaginal wall. The top end of the uterus is connected on both sides to the Fallopian tubes. Comprised mostly of powerful muscle fiber, the uterus is flexible enough to inflate to one thousand times its original size during pregnancy.

The ovaries are small oval glands in the female pelvis, perched on top of the Fallopian tubes that lead to the uterus. The ovaries have two functions: the secretion of hormones and the production of eggs. Operating via a complex feedback loop with the pituitary, other endocrine glands and the hypothalamus, the ovaries help maintain the menstrual cycle. They secrete estrogen, progesterone, and other hormones. Among other functions, these hormones regulate the appearance of secondary sex characteristics (such as breast enlargement and pubic hair growth), the production of eggs, conditions during pregnancy, and preparation for the mammary glands to produce milk. Estrogen specifically helps maintain subcutaneous fat, bone strength, and some aspects of brain function. It's not well known that the ovaries are also important for a number of functions unrelated to reproduction including digestion (indirectly), muscular strength, regulation of body temperature, and bone metabolism.

The slender Fallopian tubes (or oviducts or uterine tubes) are 2.75 to 5.5 inches (7 to 14 centimeters) long, leading from the ovaries to the uterus. When an egg is released from an ovary it enters the Fallopian tube and, pushed along by tiny hair-like projectiles called cilia, it travels to the uterus to be implanted or discarded, depending on whether or not it has been fertilized along the way. This trip can take hours or even days.

Adenoma, Cervical

See “Cervical Adenoma” in this section.

Adnexitis

See “Fallopian Tube Inflammation / Adnexitis” in this section.

Catarrh

Mucous membrane inflammation, in various places including the respiratory tract, gastrointestinal tract, eyes, and uterine area.

20, 380, 444 + 1865, 660 + 690 + 727, 787, 800, 802 + 1550, 880

Cervical Adenoma

Benign tumor of the cervix or womb. However, under certain conditions it can become malignant. You are strongly advised to see “Uterine Cancer or Tumor” and other entries under **CANCER**. Also see “Cervical Polyp” in this section.

443

Cervical Inflammation

20, 60, 72, 95, 125, 660 + 690 + 727, 740, 787, 790, 880, 5K

Cervical Polyp

A polyp is abnormal tissue growing out of mucous membrane. If these frequencies don't help, see various entries under **CANCER**, because benign tumors can grow and become malignant. Also see “Cervical Adenoma” in this section.

277, 288, 867, 687, 744

Cervical Wart

See “Wart, Venereal / Condyloma” under **WOMEN, Vagina, Labia and Clitoris**.

Cyst, Ovarian

See “Ovarian Cyst” in this section.

Endometriosis

The migration of the tissue lining the uterus (the endometrium) to outside the uterus. Sometimes, inflammation of the mucus lining the uterus, ovaries or Fallopian tubes. Normally, if no pregnancy occurs and the egg does not attach to the uterine wall, the endometrium is shed or reabsorbed (responsible for menstrual bleeding or her “period.”) Endometrial tissue outside the uterus can cause severe pain mostly in the pelvis and lower back; disabling menstrual cramps; spotting between periods; painful bowel movements or urination; nausea and vomiting; and even Fallopian tube obstruction and infertility if the condition is chronic. Endometriosis can also result from fibrous adhesions that form due to injury and surgery as well as infection and inflammation. Eliminating the adhesions with deep tissue massage may improve or entirely eliminate this condition.

Also see **VIRUSES, Herpes, all types**; “*Eurytrema pancreaticum* / Pancreatic Fluke,” “Fluke, Liver (unspecified),” and “General (unspecified)” under **PARASITES, PROTOZOA AND WORMS**; “Uterine Cancer or Tumor” under **CANCER**; and the many entries under **WOMEN, Vagina, Labia and Clitoris**.
620 (from Dr. Garvey), 246, 800, 802 + 1550, 1552

Fallopian Tube Inflammation / Adnexitis

Sometimes the ovaries are inflamed as well.

From Dr. John Garvey: 440, 441, 522, 572, 3343, 3833, 5312.

Fibroma

A benign tumor of fibrous connective tissue. Also try cancer frequencies; you don't want a malignancy.
465, 660 + 690 + 727, 802 + 1550, 2008, 2127.5

Ovarian Cancer

See under **CANCER**.

Ovarian Conditions, General

20, 26, 444 + 1865, 465, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 802 + 1550, 832, 880, 1500, 1600, 1800, 2008, 2127.5, 2170, 2489, 2720

Ovarian Cyst

An ovarian cyst is a sac containing a liquid in the ovary. Benign tumors can become cancerous, so also see the many entries under **CANCER**.

567, 711, 982, 31424, 36288, 45504

Ovaries, Inflammation

See “Fallopian Tube Inflammation / Adnexitis” in this section.

Pelvic Inflammatory Disease (PID)

A general term for an infection including the Fallopian tubes, ovaries, and/or uterus. PID is sexually transmitted. Symptoms may include pain in the bladder, vagina, urethra or lower back; irregular menses; vaginal discharge; sudden fevers and chills; and other infection indicators. *Neisseria gonorrhoeae*, which causes gonorrhea, is often involved. If the infection spreads to the upper genital tract, it may be more difficult to eliminate. PID makes 10% of all women infertile. Also see “Vaginitis” and “Gonorrhea” under **WOMEN, Vagina, Labia and Clitoris**; “Fallopian Tube Inflammation / Adnexitis” in this section; and “Uterine Cancer or Tumor” under **CANCER** because *Chlamydia trachomatis* PID may also be associated with increased incidence of ovarian cancer. Cervical cancer is also associated with *Chlamydia trachomatis*, although the presence of *Chlamydia* does not by itself indicate that the tissue is cancerous.

14, 72, 95, 428, 444 + 1865, 450, 465, 522, 590, 600 + 625 + 650, 660 + 690 + 727, 776, 787, 802 + 1550, 1600, 1770, 1800, 2008, 2127.5, 2170, 2720, 2489

Sex Gland Fever

20, 10K, 40K (for as long as desired)

Testosterone Levels, to Normalize (Women Only)

Testosterone is not a “male” hormone any more than estrogen is a “female” hormone. Both males and females have all the hormones, but in different ratios.
1445

Uterine Tumor / Myoma

Comprised of muscle tissue, this tumor is often (though not always) on the uterus. The frequency 127 is also included in case the tumor is malignant. You are strongly advised to also use the many entries under **CANCER**.

127, 253, 420, 453, 689, 832

In addition, sweep from 420 to 482 for at least 30 minutes

Uterus, Prolapsed / Dropped or Tipped

Aside from possible cultural bias that women's bodies must be a certain way, there is some validity to this diagnosis. Sometimes a woman's uterus is not properly supported by the surrounding muscles, or else the ligaments are weak. The resultant sagging or “dropping” can cause pain, discomfort, irregular menses, urinary or fecal incontinence, and a lack of support for the spine.

9.1, 110

Vagina, Labia and Clitoris

The vagina is interior—a muscular, membranous tube that forms a passageway between the internal uterus and external orifice. The visible outer vulva contains many sweat glands and is covered with hair. The inner labia (lips), containing delicate mucous membrane, surround the outer portion of the clitoris. The outer clitoris is a very small head (bulb) or glans, analogous to the head or glans of the male penis, and richly endowed with highly sensitive nerves. The full clitoral structure is actually quite large (about 4 inches or 9 cm long): a pair of legs and a pair of bulbs extend from the head, and sit invisibly behind the vulva on either side of the vagina. The entire clitoral structure becomes erect when a woman is aroused. About four-fifths of the female population cannot have an orgasm unless the head of the clitoris is stimulated.

The urethra, the tube leading to the bladder, has a separate opening through the inner labia and is very close to the vaginal opening. With such a complex structure, it's not surprising that inflammation or infection in a woman can affect many systems, both internal and external.

Most women have vaginitis at some point in their lives. Infections are usually accompanied by discharge, itching, irritation, burning on urination, and pain during sexual intercourse or other genital activity. Many pathogens can cause this condition.

The vagina is naturally acidic. Infections may occur if the vagina becomes alkaline—either from soaps, or the natural alkalinity of seminal fluid (which enables sperm to survive their trip up the acidic vagina to the uterus long enough to become implanted). You can help restore the terrain with a douche (see Sidebar, “Effective Natural Vaginal Douche”). However, if the vaginal tissues are very inflamed and sensitive, douching may aggravate the problem because it eliminates the secretions that help keep the delicate mucous membranes moist. Listen to your body and use the protocol that feels the best.

Castor oil, delivered into the vaginal tract with a clean pipette, can soothe and heal the tissue. It also confers some germicidal benefits (see Sidebar, page 846).

Genital infections can migrate to the urinary tract, so Also see “Bladder Infection / Inflammation with possible Urethra involvement” under **URINARY TRACT, Bladder and Urethra**.

General

1.2 + 250, 9.39, 9.4, 20, 72, 95, 125, 414, 444 + 1865, 464, 465, 542, 600 + 625 + 650, 642, 652, 660 + 690 + 727, 776, 784, 787, 800, 802 + 1550, 832, 845, 866, 880, 942, 1500, 1600, 1800, 2127.5, 2170, 2720

Candida

This inflammation causes vaginal discharge that is white and cheesy, and often irritating to the point of burning. Often, vaginal *Candida* is originally a gut problem: any overgrown fungal colonies in the digestive tract can easily puncture the colon wall and migrate into the vagina. This infection is common in women who have taken antibiotics, as the drugs destroy the beneficial bacillus in the vaginal and digestive tracts that ordinarily keep the *Candida* population low. Besides douching (Sidebar, this page), reintroducing beneficial flora into the vagina via a douche can also help, as well as taking the same flora orally. *Candida* can be passed between sexual partners, and without proper care can be difficult to eliminate. The woman's partner must be treated too. See “*Candida albicans*” under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

Chlamydia pneumoniae

Run each number for 5 minutes.

Program 1: If your unit can't do decimals, round up or down to the nearest number. 4710.5, 470–472, 479, 620, 940.1, 942.9, 1880.1, 1885.9, 3760.3, 3771.7, 7520.5, 7543.4

Program 2: 471, 942, 1886, 3772, 7543

Effective Natural Vaginal Douche

The foundation of a douche is acidic water, which supports the inherent low (acidic) pH of the vagina. Acidic water is made either with a water electrolysis unit (see Chapter 3), or half an ounce of white or clear filtered apple cider vinegar in about 16 ounces (half a liter) of pure clean water. To that, you may add:

- ◆ **Liquid (Elemental or Lugol's) Iodine.** Use 2–5 drops.
- ◆ **Grapefruit Seed Extract.** NutriBiotic® is by far the purest and most effective brand. Use 2–5 drops.

Infections can be prevented by douching after sexual intercourse, or after being on the toilet where wiping has brought *E. coli* too close to the vaginal opening.

Chlamydia trachomatis

A sexually transmitted bacterium that can cause urethritis (inflammation of the urethra or urinary tube), proctitis (inflammation of rectum and anus), and conjunctivitis (inflammation of the eye), as well as lymphogranuloma venereum (venereal disease featuring inflammation and ulceration of the lymph glands). If not treated, an infection may result in miscarriage and infertility in women. It can be passed to infants in the birth canal, causing eye infections and pneumonia. This microorganism may play a developmental role in cancer and Multiple Sclerosis, so see a doctor. Also see “*Chlamydia pneumoniae*” and “Lymphogranuloma venereum (LGV)” in this section.

From Dr. John Garvey: 430, 620, 624, 840, 2213
Also try: 430, 555.7, 866, 1111.4, 2222.8

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 379700 (lowest), 381K (optimal), and 383950 (highest)

Hz set: 941.18 (lowest), 944.40 (optimal), and 951.72 (highest)

Also from Clark: 18968.87

Gardnerella

Bacteria that infect and inflame the vaginal mucus membrane lining.

782 (from Dr. Garvey), 320, 329, 485, 695, 995

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 333K (lowest), 340K (optimal), and 342550 (highest)

Hz set: 825.42 (lowest), 842.78 (optimal), and 849.10 (highest)

Also from Clark: 16927.60

Castor Oil for Delicate Tissue

Castor oil soothes, softens, and heals the delicate inflamed membranes of the vagina, labia and clitoris. It also discourages the growth of pathogens. Use organic castor oil that's hexane-free and solvent-free. To apply it inside the vagina, use a disposable pipette made of thin flexible plastic—the kind used to transfer essential oils and other fluids from one bottle to another. If the pipette isn't marked sterile, spray the outside of the pipette first with 3% food grade hydrogen peroxide and wipe dry with a clean cloth. Wear sanitary pads to catch the drip from the viscous oil. It's messy, but it does a great job of healing the tissues.

Gonorrhea

Neisseria gonorrhoeae causes the sexually transmitted gonorrhea. Symptoms include inflammation of the genital mucous membrane and painful urination. There may also be inflammation in the joints and in the mucosa of the eyes, mouth and rectum. Infection can exist on a sub-clinical level. Although men usually experience burning during urination with perhaps drip or discharge from the penis, many women do not feel symptoms. *Neisseria gonorrhoeae* has become resistant to pharmaceutical antibiotics. If untreated, the infection can migrate to other areas and cause arthritis, cystitis, pelvic inflammatory disease, and endocarditis.

From Royal Rife, possibly used on his #4 machine: 233K

600 + 625 + 650, 660 + 690 + 727, 712

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 333850 (lowest), 334K (optimal), and 336500 (highest)

Hz set: 827.53 (lowest), 827.90 (optimal), and 834.10 (highest)

Also from Clark: 16628.88, 927.90

Herpes

See the many detailed entries for *Herpes* under **VIRUSES**, *Herpes*, all types.

Irritation, General

The mucous membranes of the vagina, labia and clitoris can become irritated due to pathogens, an unbalanced pH, or friction. Douche with acidic water (see previous page) to discourage pathogens. Friction can result from lots of sexual activity in a short period of time or from a small amount of sexual activity after a long hiatus. If the vagina is still irritated after an infection has been eliminated, apply castor oil (see Sidebar, above). For infection, see the pathogen's listing.

Jock Itch

Peeling skin, irritation and itching in the groin and genitals caused by *Epidermophyton floccinum*, a fungus that attacks skin, nails, and also the feet (where it is called athlete's foot). The fungi that attack the skin are often interchangeable and do not confine themselves to one area. Also see, under **CANDIDA, FUNGI, MOLDS AND YEASTS**, the various *Trichophyton*, *Microsporon* and *Microsporum* entries, "*Candida albicans*," and "General Fungus / Molds / Yeasts."

644, 766 (both from Dr. John Garvey), 856 (from Dr. Richard Loyd), 20, 345, 465, 634, 660 + 690 + 727, 784, 802 + 1550, 880

Leukorrhea

See "Vaginitis" in this section.

Lymphogranuloma venereum (LGV)

A venereal disease caused by *Chlamydia trachomatis*. Symptoms include inflammation, and enlargement and ulceration of the lymph glands in the groin area. First try: 552, 1522, and 430, 555.7, 620, 624, 840, 866, 2213, 1111.4, 2222.8.

If that doesn't work, try: 4710.5, 479, 620, 940.1, 942.9, 1880.1, 1885.9, 3760.3, 3771.7, 7520.5, 7543.4 (for *Chlamydia pneumoniae*)

Papilloma Virus / Human Papilloma Virus (HPV)

Causes warts and benign skin tumors with branches or stalks, and sometimes white patches.

907, 30250, 173210, 301800, 402850, 410700, 475470, 2976935

Also try: 45, 110, 265, 404, 466, 489, 767, 1011, 1051, 5667, 9258, 9609

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 404700 (lowest), 405K (optimal), and 406750 (highest)

Hz set: 1003.15 (lowest), 1003.89 (optimal), and 1008.23 (highest)

Also from Clark: 20163.76, 20128.91, 1002.16

Scar Tissue

Vaginal scar tissue can have many causes: childbirth, surgery, scratching from a fingernail, or even an abrasive form of birth control. The delicate mucous membranes can be healed with castor oil (see Sidebar, this page). Don't rely solely on frequencies! 190, 660 + 690 + 727, 760, 776, 787, 880, 802 + 1550, 2170, 2720

Smegma

An unhealthy, smelly buildup of the fatty secretion from the skin between the clitoris and inner labia. Keep the area clean, using mild soaps.

153, 180, 638

Syphilis

Highly infectious disease that can cause lesions in the sexual organs, fever, headache, swollen glands, rash on the hands and feet, and ultimately blindness, heart disease, and insanity if not treated. Syphilis is insidious because the pathogen enters the bloodstream during sex and can go anywhere in the body. Within 10 to 90 days after infection, a sore may appear on or around the sex organs, rectum, or mouth. Syphilis can exist on a subclinical level. If untreated in pregnant women, it can cause birth defects and even death to the baby. Women with chronic vaginal discharge, or men and women with so-called sexual dysfunctions, might want to try syphilis frequencies if other numbers aren't working. From Dr. Marty Monahan: 900, 789, 650, 625, 660, 511, 641, 633, 640, 827, 885

Also try: 600, 690, 727, 20, 120, 177, 658, 700, 902
From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 346850 (lowest), 347K (optimal), and 347400 (highest)

Hz set: 859.76 (lowest), 860.13 (optimal), and 861.12 (highest)

Also from Clark: 17276.11

Torulopsis glabrata

A yeast that may appear in vaginal infections. Also see, under **CANDIDA, FUNGI, MOLDS AND YEASTS**, "*Cryptococcus neoformans*" and other fungal forms.

522, 2121

Trichomonas vaginalis

An aerobic protozoan parasite usually found in the vagina, causing itching, burning, and foul-smelling discharge. Although a woman is generally more symptomatic than a man from this infection, the man should be treated because the parasite lodges in his genital-urinary tract and can be repeatedly passed between sexual partners.

Black seed (*Nigella sativa*) extract has been successfully used. Also douche (see Sidebar, page 845).

From Dr. Marty Monahan: 155, 447, 448, 450, 962

Also try: 610 + 692 + 980

Female Genital Mutilation Increases in the United States

Female genital mutilation (FGM) is sometimes called "female circumcision" to make it appear less drastic than it actually is. The clitoris is completely or partially cut off, and in one-tenth of cases, the inner and outer labia are as well. This ritual cutting is done with a razor, scissors or piece of sharp bamboo, and without any anesthetic. If the opening to the vagina is sewn or stapled shut, a small hole is left to allow menstrual blood and urine to pass through. (The hole is opened to allow for sexual intercourse and childbirth.) The terrified, screaming girls who are forcibly restrained to undergo this extremely painful, traumatic procedure are usually between 4 and 12 years old.

There is no medical necessity for this procedure, but there are many religious justifications. One reporter, present at a female "circumcision" ceremony in 2006 where hundreds of girls were attacked and wounded, quoted a prominent Muslim leader as saying, "It is necessary to control women's sexual urges. . . . They must be chaste to preserve their beauty."⁷²

One type of FGM, states Taina Bien Aime, director of the Coalition Against Trafficking in Women, is like "removing a male's testes," while another type "is equivalent to removing both the testes and the penis. There is no way that would be deemed acceptable."⁷³ Immediate problems from FGM include agonizing pain, severe bleeding (a given), infection—leading to fever, shock and death if the infection is untreated—and burning and pain on urination. Long-term physical repercussions include severe pain during sexual intercourse or complete loss of sensitivity; the inability to feel pleasure; infertility; and complications for both mother and infant during childbirth. Emotionally, the scars are lifelong: the loss of safety, lack of trust, and inability to enjoy one's body. There's no way to know how many girls and women have died from FGM because few records are kept.

FGM is banned by several international treaties, but it's still regularly done in over thirty countries, mostly in Africa, Asia, and the Middle East. The practice is now spreading to some countries in South America, and even to Australia, parts of Europe, and North America—including the US, among immigrant populations from Africa and the Middle East.

The US government rightly regards FGM as child abuse and torture. Legislators are trying to pass laws that make it a felony, punishable by up to 15 years in prison—both for doctors who perform the procedure, and parents who transport a girl for that purpose. The World Health Organization (WHO) estimates that more than 200 million girls and women alive today have suffered genital mutilation.

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz set: 378K (lowest), 381K (optimal), and 383600 (highest)

Hz set: 936.97 (lowest), 944.40 (optimal), and 950.85 (highest)

Also from Clark: 18968.87

Vaginismus

Involuntary pelvic muscle contractions causing intense pain, often during sexual intercourse or a gynecological examination that requires the insertion of a speculum. The pain is usually due to a spasm of the pubococcygeus (PC) muscle, although other vaginal muscles can be involved and pain is sometimes felt in the urethra too, especially during urination. Medical opinion largely agrees that the cause is psychological, but there may also be microbial involvement. See “Vulvodynia / Vestibulodynia” in this section, as the approaches and treatments are the same.

Vaginitis

Inflammation of the inside of the vagina and sometimes the vulva, often accompanied by discharge, itching, irritation, burning on urination, and pain during sexual contact. Douche (see Sideber, “Effective Natural Vaginal Douche,” page 845), and if necessary, use castor oil afterwards to soothe and heal the tissues (see Sidebar, “Castor Oil for Delicate Tissue,” page 846). Below are general frequencies for common (unspecified) pathogens. If you know the precise pathogen involved, see that particular entry. Fungus is present in the majority of vaginitis sufferers, so see “*Candida albicans*” under **CANDIDA, FUNGI, MOLDS AND YEASTS**. Also see “*Ureaplasma urealyticum*” under **BACTERIA**.

1.2 + 250, 9.39, 9.4, 20, 72, 95, 125, 414, 444 + 1865, 465, 542, 600 + 625 + 650, 642, 652, 660 + 690 + 727, 776, 784, 787, 800, 802 + 1550, 832, 845, 866, 880, 942, 1500, 1600, 1800, 2127.5, 2170, 2720

Vulvodynia / Vestibulodynia

A burning pain at the opening (vestibule or introitus) of the vagina, and sometimes farther up the birth canal to the opening of the cervix. This pain impacts the ability to have pleasurable sexual intercourse and other forms of vaginal sex, and also make it impossible to insert a tampon. The pain may also interfere with other daily activities, such as rigorous athletic activity, standing, or even sitting. The tissues of the clitoris and vagina feel tender to the touch, either constantly or intermittently.

Conventionally trained doctors say that they don't know the cause. However, certain triggers should be checked, including localized vaginal yeast or other infections. This includes infections that have been treated with medications, because sometimes the medications simply drive the infection more deeply into the body without actually eliminating it. Other triggers include contact dermatitis from tampons, panty liners, detergents or inappropriate douches; vaginal surgery; or injury from childbirth.

One common cause is fear, anxiety, suppressed terror, or suppressed rage, emotions commonly resulting from childhood sexual abuse, adult rape, or even the witnessing of invasive and abusive behaviors (not necessarily sexual). Sexually repressive upbringing can also play a role, which causes the woman to feel disgust or revulsion towards her body and sexuality. Modern medicine prescribes painkillers and antidepressants. However, gentle physical healing protocols and emotionally-based therapies are more appropriate (and effective). Psychotherapy should focus on learning how to trust, having a positive body image, and the ability to surrender mental and physical control and feel pleasure.

Kegel exercises improve muscle tone and allow for a higher tolerance of sensation in the vaginal tract: Squeeze the same muscles used to stop urination, hold the muscular contraction for two seconds, relax muscles, and repeat the cycle several times. The gentle insertion of a well-lubricated finger follows, as appropriate. Smooth cylinders of a larger diameter (dildoes) can be gradually added, according to ease and comfort.

Another surprisingly common cause of vulvodynia is spasms of ligaments or muscles in the pelvis, which spasm due to either a displacement of the tailbone, or a tight psoas muscle (the very long muscle from the mid-spine to the bottom of the pelvic structure). A misaligned pelvic bone might be involved, along with a displaced uterus or urinary bladder. Some gynecologists and chiropractors can examine and adjust these sensitive areas. A chiropractic pelvic bone adjustment—typically done through the subject's hand, which covers the bone—can correct not only vaginal constriction, but also straighten the entire posture. A very few practitioners do soft tissue manipulation, which may involve adjustments through the vagina or anus.

To address pathogen involvement, see infection entries in this section.

Wart, Venereal / Condyloma

Benign but very painful, sometimes bleeding tumors with a branch or stalk and occasionally white patches, caused by the *Papilloma* virus. Men do not feel

the negative effects of venereal warts as strongly as women do. In women, if this condition is not eliminated it can lead to cervical cancer. Also see frequencies for “Wart, Plantar,” under **SKIN**.

First try: 110, 767 (both from Dr. John Garvey), 45, 265, 404, 446, 466, 489, 660 + 690 + 727, 874, 907, 1011, 1051, 2127.5, 5657, 9258, 9609

From Dr. Hulda Clark. Use the Hz set for units unable to output KHz. With such a wide frequency range, you may want to sweep.

KHz sets:

402850 (lowest), 407K (optimal), and 410700 (highest)

404050 (lowest), 404300 (optimal), and 404600 (highest)

Hz sets:

998.57 (lowest), 1008.85 (optimal), and 1018.02 (highest)

1001.54 (lowest), 1002.16 (optimal), and 1002.90 (highest)

If the above frequencies don't help, try these: 173, 466, 495, 644, 767, 787, 797, 877, 907, 915 (for 30 minutes), 918 (for 30 minutes), 953, 1500, 1600, 1800, 2008, 2170, 2720, 2489

Yeast Infection

This inflammation causes vaginal discharge that is white and cheesy, and is often irritating to the point of burning. It is common in women who have taken antibiotics, can be passed between sexual partners, and without proper care can be difficult to eliminate. Also see the frequencies for *Candida* in this section as well as “*Candida albicans*” under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

72, 422, 582, 706, 771, 787, 788, 1016, 2222

End of Women section.

WERNICKE-KORSAKOFF SYNDROME

See under **BRAIN AND NERVOUS SYSTEM, MIND AND EMOTIONS**.

WORMS

See under **PARASITES, PROTOZOA AND WORMS**.

WOUNDS, TO SPEED HEALING FROM

See under **REGENERATION AND HEALING**.

—Y—

YEAST, ALL KINDS

See many entries under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

YELLOW FEVER

See “*Flaviviridae* / Yellow Fever Virus / Yellow Fever / Yellow Jack / Black Vomit” under **VIRUSES**.

YELLOW FLY BITE

See “Yellow Fly” under **INSECT BITES**.

YERSINIA (PASTEURELLA) PESTIS / PASTEURELLA

See under **BACTERIA**.

—Z—

ZIKA VIRUS

See under **VIRUSES**.

ZYGOMYCOSIS

See various “*Mucor*” entries and “Mucormycosis / Zygomycosis” under **CANDIDA, FUNGI, MOLDS AND YEASTS**.

Emotional Flexibility Helps Prevent Illness

We can use the skills of coping and adapting to bring about changes that will make us happier and healthier . . . We can cope by broadening our social networks, forming a diverse set of friends, family, and colleagues so as to build a healthier balance of dependence and interdependence. This gives us a greater sense of belonging as well as a sense of safety and security. We can also create changes by adapting—that is, by changing ourselves to fit the world better. We can look inside ourselves and work to change qualities in ourselves so that we're better able to withstand stresses and assaults from the outside world. . . .

Researchers looked at two groups of business executives: both were highly stressed, but one group exhibited a high instance of illness whereas the other group had no illnesses. The scientists found that the individuals with high stress and no illness had a strong commitment to themselves, had a vigorous attitude toward the world around them, looked for meaning in the events that took place, and believed that they had some control over every situation. The executives who succumbed to illness, on the other hand, felt powerless, were nihilistic, and believed they had little or no control over what happened to them. . . .

Healthy people accept change and view it as a challenge and an opportunity to grow. When faced with stress, they may feel hopeless and helpless for a moment, but they will pick themselves up and go into action. . . . The key is balance.

—Mona Lisa Schulz
Awakening Intuition, 1998



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Chapter 5

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A sad soul can kill you quicker,
far quicker, than a germ.

—John Steinbeck
American Pulitzer Prize-winning novelist
Travels with Charley: In Search of America
(1902–1968)



*Slowly an apprehension of the intimate, usable power of God is
growing among us, and a growing recognition of the only worthwhile
application of that power—in the improvement of the world.*

—CHARLOTTE PERKINS GILMAN,

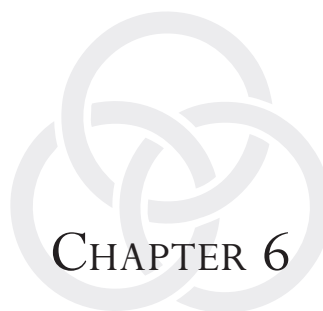
AMERICAN WRITER, POET, LECTURER, SOCIAL CRITIC AND ACTIVIST (1860–1935)



Chapter 6 Outline

Creating a Better World, Inside and Out

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Creating a Better World, Inside and Out

INTRODUCTION

Rife technology is about life and overcoming illness. But any genuine discussion of healing must also address the reality of death. After all the clinical trials are published, data is analyzed, anecdotal reports are offered and advice is given, some deaths are inevitable. Despite your or my best efforts, within our circle of family, friends, lovers, acquaintances and colleagues, someone will not wake up to see the sun rise tomorrow.

Most people view death as the cessation of life in the physical body. But death can express itself in different ways, even among the living. Take emotional numbness. The living can also experience a sort of death: the death of emotional expression. Sometimes, to protect ourselves from feeling too much pain, we barricade ourselves against any and all emotions, pleasurable or not. Yet hiding diminishes us. When we hide who we truly are, we cannot connect with ourselves or with others. Perhaps this is the worst kind of death. But in hiding, we disconnect—not only from others, but from ourselves.

Feelings of connection helps us feel secure. Beginning with family, they extend to community and country. Being connected is essential to our health and sense of well-being. In fact, a sense of belonging is fundamental to our very identity. It's threaded through the cellular memory of our bodies—from the cytoplasmic matrix that joins together all of our cells, to the tiny particles that flash, in an elaborate orchestrated dance, within our atoms.

The interconnecting functions in all living systems point to the need for holistic therapies. Holistic therapies heal by helping to reestablish the functional relationships between all the aspects of a system. Thus, healing at its deepest level may be described as the awakening, affirming, and energizing of connections that have been submerged or lost. In many ways, the process of healing is the process of becoming more aware.

Awareness can manifest in many ways: physical, emotional, mental, energetic. It also happens in stages. Usually, we're more aware of the overtly physical changes that occur in us than the emotional, or the even more subtle energetic changes.

One of the most powerful waves of recent awakening, health-wise, came with the birth of the self-help movement in the 1960s. People were not simply interested in getting an education, a good job, and having a home and family. They wanted to explore their deeper desires and dreams. Sometimes this knowledge of self came at a price. It meant separating from people whose paths were different from their own. But still, more and more people were willing to depart from what was expected of them, finding new meaning in the discovery of their inner lives.

Revelations in the personal sphere led to an understanding of the bigger picture. There was a slogan in the early 1970s from the second wave of the women's liberation movement: "The personal is political." What feminists were referring to were the invisible social and political forces that shape our lives. The less obvious these

forces were, the harder it was to see that our problems were not unique to us as individuals. Politically awakening people became aware of how laws and social customs too often dictated how they related to themselves and to others. What previously had seemed like personal shortcomings were now being recognized as constraints imposed by globally orchestrated forces to keep the world's citizens ignorant, alienated, and powerless—the precise characteristics that allowed people to be easily controlled by outside forces.

Instead of succumbing to despair and lethargy, however, many people started to realize that they could gain strength from being kind to and connecting with others, even those radically different from themselves. The understanding and soul-searching that had been catalyzed by the self-help movement was now beginning to include a larger sphere outside of the self, as people all over the world united to dismantle the global plague of greed and fear and replace it with compassion and trust.

Despite some beneficial changes created by this global political consciousness, people were still hungry for a sense of oneness with something larger than themselves. When I was working as a singer-songwriter and later as a body-mind psychotherapist, in my conversations with others the theme that kept repeating was a longing for this bond. The connection that my audiences, clients, and friends told me they wanted seemed to be of cosmic proportions. People were starting to recognize what most ancient traditions had affirmed for centuries: *The divine without is the same as the divine within*. Another name for this all-encompassing connectedness is *spirituality*.

Spirituality is not always the same as religion, although the two can overlap. Religion is a cultural system of designated behaviors and practices, imbued and indoctrinated through formal instruction that's not meant to be questioned. It promotes codes of behavior based on written or unwritten rules, overseen by an institution or its representative. Religion is always structured so that its adherents rely on an intermediary from the governing body to impart a sense of connection to something beyond themselves. Spirituality, on the other hand, is not mediated by another person or institution. Originating from within, its expression does not depend on formal teachings. One can find inspiration from many sources—which may or may not include religious principles—but the codes of behavior for dealing with others spring from one's own conscience and sense of values, rather than from prescribed doctrine or any other external source. In either system, when a deep connection is felt, great healing can occur.

A patient grants you the gift of trusting you with their lives, and there is no room for mistakes.

—Alberto Quinoñes-Hinojosa, MD,
neurosurgeon, quoted in
The New York Times May 13, 2008

This chapter was written to explore the possibilities of multi-dimensional healing, under circumstances ranging from the mundane to the extraordinary. You might view the three chapter sections—**The Personal**, **The Political**, and **The Transcendent** (sometimes known as *transpersonal*)—as the evolution of one human being (me). However, this is also a progression that I have often seen occur with other individuals and large groups.

The Personal is designed to help those who are dying to manage their fear of death, and to help the survivors face any fears of being left behind and to gracefully maneuver through the grieving process. **The Political** addresses the issues that continue to affect us on a global level after we have moved through the rawest, most painful stages of our mourning and dried our tears. **The Transcendent** discusses the quantum nature of consciousness that in some ways is even more “real” than the personal and political realms. Once we open to the boundless energetic universe in which we live, two changes can occur. We more easily navigate the difficult social and political forces that impact our lives. And we can heal in profoundly transformative ways.

THE PERSONAL

The Trauma of Illness and Death

When I mention Rife Therapy to seriously ill people, they always want to know: “Do the frequencies *really* work? What's the success rate for the terminally ill?” Of course what they're really asking is, “What are *my* chances? Can you guarantee that *I* [or a loved one] will be cured?” While I feel compassion for them, I can only reply, “I don't know what your chances are. There are no guarantees of anything.” The refreshing success rate for electromedicine in general and Rife Therapy in particular—compared to a less than 3% success rate for chemo and radiation—does not guarantee that *their* life will be saved. Besides, all the data in the world does not address our emotional needs. To most people, death is an unknown quantity. And the unknown can be very scary.

The relatives and friends of the seriously ill are afraid, too. They ask me the same questions, demand the same guarantees. They want to bypass their grief (or guilt) if a loved one dies. They're reminded of their own mortality as they grapple with the inevitability of their loved one leaving them. And they want to be spared the trauma of

grief if, after allowing themselves to hope that rifting will work, their loved one dies and they end up having to face loss anyway. It can feel like a bigger loss to have their hopes kindled and then extinguished, than if they had not even dared to hope at all. Not surprisingly, the people who try to protect themselves from disappointment are sometimes the most vocal critics of Rife Therapy. Afraid of being deceived and disillusioned, they end up dismissing it yet at the same time refuse to investigate its potential.

Most people in technologically advanced cultures are taught that death is separate from life, to be despised and feared. There are few role models for how to cope with (or tell someone about) a loved one's imminent or recent passing. Most of us don't learn how to fully give in to the grieving process during this time. We feel pressured to be upbeat and smiling, even though grieving can take years. People mourning a fresh loss usually don't have the energy to engage with the outside world. Yet too often, they try to push themselves into activity before they're ready. In fact, they go out of their way to hide their pain and sadness because they're afraid of being impolite or a burden to others. The best thing mourners can do is be gentle with themselves, and not force themselves to feel or behave in any particular way. (See Sidebar, "How People Die.")

"Shattering Eight Myths About Grief" from the Hospice Foundation of America may give you some solace when it's your turn to mourn.

Myth 1: We only grieve deaths.

Reality: We grieve all losses.

Myth 2: Only family members grieve.

Reality: All who are attached grieve.

Myth 3: Grief is an emotional reaction.

Reality: Grief is manifested in many ways.

Myth 4: Individuals should leave grieving at home.

Reality: We cannot control where we grieve.

Myth 5: We slowly and predictably recover from grief.

Reality: Grief is an uneven process, a roller coaster with no timeline.

Myth 6: Grieving means letting go of the person who has died.

Reality: We never fully detach.

Myth 7: Grief finally ends.

Reality: Over time, most people learn to live with loss.

Myth 8: Grievors are best left alone.

Reality: Grievors need opportunities to share their memories and grief, and to receive support.¹

Some bereavement counselors teach that the ideal goal is to eventually detach enough not to grieve. Although this approach does have some merit, it's important not to confuse detachment with stifling or denying the pain. The previous guidelines are still useful to help us express our grief, so we can more quickly process our pain and be at peace with loss.

What To Say and What Not To Say to Someone Who's Grieving

People who are in a position to offer support and comfort to mourners often don't know how to reach out, even though they want to. They might try to distract the mourner from strong emotions—either because they think this is the best way to handle death, or they're uncomfortable with emotional intensity and don't want to get triggered themselves. Or, they don't want to think about their own impending death or the deaths of their own loved ones.

Some people offer remarks that are meant to comfort, but which don't help the person who's grieving. In fact, the remarks are well-meaning platitudes that usually make the mourner feel worse. The mourner, not wanting to hurt the feelings of the person who's trying to comfort—or afraid to destroy a potential source of comfort—is too polite, grief-stricken, or dispirited to object.

How People Die

Allopathic medicine alienates—not only due to its medical protocols, but also its treatment of those who are dying. The authors of "Death by Medicine" write that senior citizens "have accepted the overriding assumption from allopathic medicine that aging and dying in America must be accompanied by drugs in nursing homes and eventual hospitalization with tubes coming out of every orifice."² However, according to a nationwide poll, almost 90% of Americans would prefer to be cared for (and die) in their homes if faced with a terminal illness. In the past few decades, the hospice movement has stepped in to fill this vital need.

Hospice care is focused on pain and symptom management. Many hospice environments are set up in the subject's home, with nurses and other personnel assisting family members in the physical care of the dying person. Although hospice can be a physical place, it began as a concept: to care for the dying in ways that maintain their dignity and help them focus on quality of life. This involves providing emotional and physical support to the dying without trying to artificially prolong life or hasten its end. Bereavement support for the person's family before and after death is also provided.

What are some of these unhelpful clichés?

- ◆ “At least she lived a long, full life.”
- ◆ “Cheer up. He wouldn’t want you to be sad.”
- ◆ “There’s a reason for everything.”
- ◆ “He’s in a better place.”
- ◆ “She was such a good person, God wanted her to be with him.”
- ◆ “Time heals all wounds. Focus on the blessings in your life.”
- ◆ “Think of all the wonderful memories; they’ll bring you peace.”
- ◆ “I know how you feel.”
- ◆ “It’s been awhile since s/he died. It’s time to get over it.”

Even if one of the sayings above might be true, it’s not what the mourner needs to hear. Instead, you might say:

- ◆ “I’m so sorry for your loss.” However, this phrase has become so overused, a better choice might be, “I’m so sorry that you are going through such a difficult time.”
- ◆ “I imagine [*not* “know”] that your life without them will be difficult.”
- ◆ “Tell me more about what’s been going on for you.”
- ◆ “You, your family, and your loved ones are in my thoughts.”
- ◆ “I hold the intention for you to heal rapidly, easily and completely from your loss.”
- ◆ “I am here for you.”

Sometimes, what the mourner needs is compassionate listening, what psychotherapists commonly call “holding space.” Or the grieving person may want the simple presence of a caring other, with no words exchanged.

There are many ways to help. Some people benefit from practical, tangible assistance, such as being given home-cooked meals or assistance sorting through the deceased’s personal items. Other people require emotional understanding. Ask the person what his or her needs are. Even if she doesn’t know, she will feel better knowing that you cared enough to ask. Sometimes, a grieving person doesn’t even know what he needs. Or he’s unable to ask for what he needs. This is a time to be proactive and tell the mourners what you’d like to do for them, and when, rather than waiting to be asked.

Grief takes an enormous toll on the body. This emotion occurs simultaneously with the many hormones that are released through a chain reaction of triggers and responses. The hypothalamus secretes a hormone that stimulates the pituitary to release ACTH (short for *adrenocorticotrophic hormone*). ACTH circulates through the bloodstream to the adrenal glands, which in turn circulate several hormones that include the stress-related *glucocorticoids*. *Glucocorticoid hormones suppress immune function*. If secreted in large amounts over a long period of time, they can cause the thymus gland to shrink. At the same time, the person may feel exhausted, and even experience muscle wasting—a breakdown of bodily proteins that is a literal demonstration of how someone can be “eaten alive” by sorrow. These conditions set the stage for all kinds of autoimmune conditions. This is why it’s common for spouses to die within a year or two of each other. As one author writes, “If we want to be fully present, to honor what we have lost and to give grief its due, we need the physical stamina . . . [and] to be supported physically if we are to successfully complete our healing journey. . . . Glucocorticoids are the physiological messengers sent by a broken heart.”³

The Five Stages of Dying

Many Western cultures lack meaningful rituals that acknowledge the dying person’s life, their approaching or concluded death, and the effects that the death will have on the living. In 1969, Swiss psychiatrist Elisabeth Kübler-Ross revolutionized care for the dying with her now classic book, *On Death and Dying*. This remarkable work describes five stages of dying, which Kübler-Ross recognized from interactions with thousands of terminally ill clients. Although these stages are listed as a progression, as though one were peeling an onion, people may not always experience them neatly in sequential order—and in fact, they may vacillate many times among any of the stages. Nevertheless, understanding the emotions that people undergo (in whatever order) when faced with their own death, is healing for both the dying and for those they leave behind. It helps the dying become more self-aware. It allows their friends and relatives to better assist them (and to perhaps more easily manage their own feelings). And it gives those who remain behind a glimpse of what they might expect for themselves. Keep in mind that Kübler-Ross’s five-stage model relates specifically to the dying rather than to the living who are grieving, although there may be an overlap. Also, this model pertains to those who are ill, rather than to those whose deaths are unexpected (such as from a sudden accident or natural disaster).

Denial and Isolation

The first response is usually, “No, this cannot be happening to me; it must be a mistake! Those tests must belong to someone else.” This denial exists to help the person handle the shock and adjust to the idea of imminent sorrow and loss. The person might attempt to isolate self from family, friends and physicians, whose presence or comments are only a reminder that s/he is not well—and that much more grief will follow. Don’t try to force dying people to accept more truth than they are ready to handle; a more realistic attitude will come later.

Anger

Anger is typically expressed as “Why me? I have so much to live for. Why couldn’t it have been *him*?” The anger, or related emotions of rage and resentment, may also be accompanied by envy. The anger is usually misplaced onto family, friends, and health care providers. Even though the person may be very disagreeable, people in close contact with the sick person must remember to avoid taking this anger personally. The dying person is trying to maintain a (misplaced) sense of dignity. Don’t engage with any abusive behavior. Instead, respond with firmness and kindness.

Bargaining

The inability to accept one’s impending death creates a wish or fantasy of being able to postpone the inevitable. The (often unconscious) reasoning goes: “Maybe if I am a better person, work harder, atone for my past mistakes/sins, or devote my life to unselfish service, I will be rewarded with more time, less pain, or a complete remission.” Bargaining comes from a desperate, lonely, and perhaps guilt-ridden place. This stage is usually passed through more quickly than the other stages. Its resolution may take place on a completely internal level, with little or no discussion with others.

Depression

There are two types of depression in those who are dying. The first is based on fear that remaining unfinished business (material or emotional) might burden the living—as in, “How will my family cope when I am gone?” For this, the person needs practical reassurance that life can, and will, hold beautiful moments for the survivors, and that they will cope. The second type of depression is based on the anticipation of impending losses—of no longer being with loved ones, of missing things in life that one has enjoyed. The dying need to be allowed to grieve. Give them quiet compassion and physical support without attempting to cheer them with platitudes.

Obituary: Marty Geltman, 65, Who Held His Funeral in Time to Enjoy It

Marty Geltman, an ordinary man, . . . faced death in an extraordinary way . . . [by celebrating his life, two years before his actual death] with a living funeral in June. [It was] attended by 200 family members and friends after learning his cancer was terminal. . . . On June 23, Mr. Geltman, in a wheelchair, wearing a tuxedo and tennis shoes, and his wife staged what they called a celebration of life in the . . . meeting room [of the Morristown Unitarian Fellowship]. . . .

For two mostly boisterous hours, Mr. Geltman’s life was celebrated in song, satire and clear and teary-eyed testimonial. . . . [He] explained in an interview how he confronted death so openly, and offered an assurance to others. “I wanted to teach people how to die,” he said. “I think I can handle it because I’m committed. It’s okay; it’s really okay.”

[Mr. Geltman] died at home. . . . A more conventional memorial service was held [at the time of his death] at the Menorah Chapels in Millburn, N.J.

—Steve Strunsky
The New York Times, August 18, 2001

Acceptance

In preparation for death, one withdraws energy from the environment into oneself. Physical symptoms include weakness and fatigue. The psychological counterpart is a lack of interest in one’s surroundings or even one’s pain. During this time the dying develop emotional detachment, which enables them to let go of the need or will to live. At this stage, the grieving who are left behind need even more help than the dying. The one advantage of this stage is the opportunity for the dying person to review his or her life.

Some newer models of this paradigm have added forgiveness as part of the step of acceptance. The concept of forgiveness has sometimes been misconstrued. It doesn’t mean that we condone disrespectful or violent acts that have been perpetrated against us. (This interpretation is often linked to some religions.) A truer definition of forgiveness is letting go of grudges or anger toward the person(s) who committed those unkind acts. When we don’t hold on to anger and resentment, we can replace these emotions with other, more beneficial ones. There’s a saying: “Holding onto anger and resentment is like drinking poison and expecting the other person to die.” Forgiveness is something we do for ourselves, not others.

The Need to Let Go

Despite the inevitability of death, one restorative emotion that all of these stages share is hope. Besides keeping us alive, hope brings out the best in us. Sometimes, miracles happen and a life is in fact prolonged. Other times, even though death occurs, it's a peaceful one. Parents who have lost children sometimes remark that the child's serenity about dying has helped them overcome their own fear, grief, and pain.

Some of the most positive personality changes can be catalyzed by an impending death. Counselors for the dying often say that when someone who's dying realizes how little time is left, grudges are dissolved, family and friends are forgiven, and love is restored. Counselors also emphasize how the resolution of issues determines how one dies. Someone on her deathbed who yearns to express what to her are unmentionable thoughts and feelings—but who still withholds for fear of upsetting others or appearing bad and unlikable—dies lonely and restless. Someone else who has made peace with herself, her life and the people in it, passes smoothly, is more relaxed physically, and is observably serene—sometimes even ecstatic. Each person has his or her own way of responding to death. Some people find it easier than others.

Yet for both the dying and the still-living, the one theme that seems to remain constant is that of *letting go*. This means surrendering the need to control the outcome or to know what will happen, giving up the need to dictate how other people should feel or act. Giving up the need to direct others is the key to not only dying, but also living. It helps us focus on the present, and stay in tune with our passions. It also helps us remain accountable for our own actions and avoid the practice of finger-pointing and blaming others. I will say more about this later.

The health professionals whose daily work involves life and death face letting go in another way. While

compassion for others is of course essential, they must remember not to be attached to a specific outcome.

I'll give you an example from my own life. When I first became involved with rife technology, I often lamented to myself: "Why won't she listen? I could have given her worthwhile information, but she refused to listen to other possibilities and instead, insisted on seeing that narrow-minded, know-nothing doctor." There was an important lesson for me here. *People have the right to make their own choices, regardless of whether or not we agree with those choices.* It's not up to me to decide what another's path should be. I can only present options and give the person the freedom to choose. It's *her* life. This is one of the hardest lessons for caregivers in the healing arts, or for anyone who has ever watched a loved one deteriorate and die. Yet by not respecting another's freedom to choose—even if we believe that those choices are counterproductive and unwise—we erode the relationship. We are subtly (or not so subtly) telling the person: "I don't respect your choices. I don't trust that you know what's best for you. And I don't love you enough to allow you to make your own mistakes." Letting go isn't easy!

Several years ago, I was asked as an educator to share information about rifting. But what I was really needed for was my counseling ability, to help someone let go of her wish to postpone the death of someone very close to her.

My mission of service began when I received a call from a woman in her late thirties whom I'll call Shelly. Shelly had heard me talk about Rife Therapy at a conference, and kept my phone number. Her father had cancer, and she was exploring holistic options for him other than the radiation and poisonous chemicals he was receiving. As I launched into a discussion about various electromedical devices, her continual, almost frantic demand for proof that they worked suggested to me that something was very wrong. I began to suspect that what Shelly wanted for her father was quite different from what he wanted for himself.

"How does he feel about all this strange-sounding technology?" I asked her.

"He's a little resistant to the idea," she replied cautiously, "but I want to do as much research as possible so I have something solid to present to him, something he can't refute."

Was her father open to holistic health in general? I asked her. Not really. Was he willing to change his diet? Absolutely not. Did she think he would drink enough water to flush out the toxins that would surely be unleashed by the Rife Therapy? She wasn't sure.

So I said to her, very gently, "Shelly, did you ever consider that it's his time to leave? Maybe he's trying to stay because you won't, or can't, let go of him. But maybe

It is now widely accepted that doctors who are compassionate make better healers. Deepak Chopra writes how his native East Indian background helped him transform from being a mere medical mechanic into the healer he had always wanted to be. He realized that loving the people he treats is the key to helping them, because loving others means respecting their essential humanity. "If there is any fear of disease, any rejection of the patient, or any clinging to authority," he asserts, "then conventional medicine cannot be transcended. What should be an art remains a common trade."⁴

that's not what *he* needs to do. Do you think you can let go of him if he needs to die?"

Shelly burst into tears. During the next hour, we addressed her attachment to her father and any possible remaining unresolved issues between them. After a very candid, heart-to-heart talk, and some eidetic imagery work that I facilitated, Shelly decided not to pursue rifting—or any other modality, for that matter. She did, however, decide to visit her father in the hospital and tell him that no matter what he wanted to do, she would unconditionally support him.

I didn't speak to Shelly after that phone call, but about nine months later she sent me a lovely gift with a note. "Thank you so much for helping me let go of my father," she wrote. "Right after we spoke, I went to say goodbye to him. It was his last lucid week. I told him that I would miss him terribly, but had forgiven him for wanting to leave. I'm at peace now." I was happy to hear of Shelly's positive experience with her father's death. They both got what they needed—and what they needed wasn't Rife Therapy. It was the ability to let go. Shelley's father was able to let go of his wasted body and his fear of leaving it. And Shelley was able to let go of her need to keep him alive at any cost. Paradoxically (but not surprisingly), when Shelley let go, she and her father were able to share some of the closeness that she (and undoubtedly he) had craved. They both also experienced a sense of resolution and completeness. This closure allowed her father to have one form of rest, and gave Shelley another.

Sometimes, the letting go that people experience is not a relinquishing of the body, but a release of old habits and unproductive ways of thinking. When we let go of what we don't need, healed emotions and a different way of life can enter to fill the void. I've had the privilege of witnessing such unexpected (and delightful) changes. Extraordinary, determined people, with so-called incurable illnesses such as Stage IV cancer, refuse to accept a medical pronouncement of "less than one month to live"—and miraculously begin to reverse their condition within days of starting Rife Therapy. And I cannot count how many times people have said to me, "My doctor told me that if she hadn't seen my 'before' X-rays, she would never have believed that I had cancer." There are many such cases, and I find them inspiring and moving. The biggest triumph is knowing that you can approach life on your own terms.

Death may come soon, or it may come later. We may not have conscious control over when we leave. But we can make the most of whatever time we have. Being honest about who we are can energize us in ways that we may never have imagined.

Communicate with Your Doctor

I think it important to tell your physician about anything that you have done or used to improve health. There are some good reasons for this. First, your doctor begins to understand that there are other ways to heal than what he was taught in school. Second, the doctor needs to know what you are doing so that possible interactions with any medications or treatments can be avoided. Third, as your doctor learns from you and others, he won't be making statements based on prejudices and misinformation acquired in school.

If the medical world won't build a bridge to us, we must build one to them. In doing so, everyone wins.

—James Bare, DC
chiropractor and patent holder
of the Bare-Rife machine
October 21, 2004

Doctor Support, or Lack of It

We can always use support. It's nice to get it from our health care provider, although that isn't always possible. For those who have a life-threatening illness, however, a lack of support can feel devastating. I have heard many horror stories about medical doctors who are not supportive to those entrusted to their care.

- ◆ "My doctor was very upset that I didn't follow his regimen, even though I got better and eventually became cancer-free. Why did he get so upset? He should have just been happy that I'm still alive."
- ◆ "My doctor said I was terminally ill and had weeks to live. But then he got mad at me for refusing surgery and a blood transfusion! Why? If, according to him, I was going to die soon anyway, why should I put myself through the torture and cost of an operation—which in the end wouldn't even matter? The doctor kicked me out of his office and told me never to come back. He told all his colleagues not to see me, either. Well, it's four years later and I'm still here. The other day, I saw him walking toward me. He crossed the street so he wouldn't have to say hello. He doesn't want anything to do with me."
- ◆ "I don't understand why my doctor turned on me. Oh well, when you've been like a god for so long, it's hard when your worshippers find a new religion."
- ◆ "As a chiropractor, I've heard many stories from people with so-called terminal diseases about how their doctors were aggressive and verbally abusive because they got better and didn't die."

Sometimes practitioners publicly denounce the very treatments they secretly adopt. There's no way of knowing how often this occurs, but it does happen.

- ◆ “I know an orthodox medical doctor who doesn't follow his own advice. Once I asked his opinion of chelation therapy [the oral or intravenous administration of substances that bind with toxic metals so they can be eliminated by the body]. He told me that chelation is a fraud. But guess what? Soon after, when I started taking chelation treatments at a holistic facility, I discovered that very doctor taking chelation therapy at the facility—but in a special ‘VIP room’ with its own entryway. What a hypocrite!”

Some doctors, wedded to allopathic ideology, refuse to believe that people with cancer can heal themselves.

- ◆ “A few years ago I developed a tumor on one of my lungs. My doctor ordered regular X-rays to ‘monitor’ the tumor for growth, but other than that, there really wasn't anything he could do for me. So I bought a rifle machine and used it daily. During my last visit, I was asked to have two X-rays—of the same spot! My doctor told me, ‘You don't have a tumor on your lung.’ I said, ‘What about the previous five X-rays?’ The doc said, ‘They must have been mistakes.’ He didn't even want to know what I had done for myself!”

The more optimistic tales are variations of this:

- ◆ “When I went in for my weekly office visit, my doctor told me he couldn't believe the progress on my blood tests and X-rays, so he asked me what I was doing. I was afraid to tell him everything, so I mumbled something about herbs and vitamins. ‘Well,’ he said, smiling, ‘keep it up.’ But he didn't ask me what I was doing.”

Why *didn't* that doctor inquire what his client was doing? Why *wouldn't* those doctors want to know what was helping the people in their care? One would think that they'd seize the opportunity to help even more clients by adding more therapies to their repertoire. But alas, it usually doesn't work that way, especially if a client's journey is outside the doctor's sphere of knowledge.

Sometimes, medical professionals feel threatened—embarrassed to be unmasked for not being all-powerful and not knowing how to fix the client. Western-trained physicians who are “supposed” to know their trade frequently resent being disgraced by a non-mainstream therapy that succeeds where allopathic medicine fails. After all the time, money and effort spent on education and career development, to have a client beat the dismal odds—with *self*-treatment, no less—can feel like a huge blow to one's ego.

When I was diagnosed with fibromyalgia and Chronic Fatigue Syndrome, I was told repeatedly that it was incurable. The doctors told me, the arthritis society told me. Even the people at the fibromyalgia “support” group told me it was not curable. They told me to just accept my lot in life, that I would be like this forever and that I was in denial to think that I could cure myself when so many before me hadn't. This one comment was the single most depressing thing I had heard, worse than the diagnosis itself. To think I would have to accept that I could never be healthy and be in charge of my body again—that some invisible thing had taken over my body and my life and I was stuck like this! I cried for hours. Then I got up and went to the gym. If I was going to hurt, it was going to be because I *did* something.

That was fifteen years ago. Today I am cured. I have not had a symptom in eight years. I do not “manage” it, I do not “live with” it. I do not *have* it. If I had believed the lie of the people who were too weak or too beaten or too dependant on their illnesses, I would still have it. But I was not willing to settle for that life sentence.

The people who most often tell me I must not have really had fibromyalgia and Chronic Fatigue Syndrome are other people with fibromyalgia and Chronic Fatigue Syndrome. It shatters their little world of suffering and their “poor me” mentality to think that someone else has cured the thing they are embracing so tightly. If they don't say it outright, they give me a knowing nod with a little smile, and make some comment about how I must not have had it *that* bad then. Or I must have been misdiagnosed. Or (this one is my favorite) they have it worse than anyone, and what worked for me would not work for them. And here's another favorite, told to me recently as a reason for not coming to my house for *free* ozone sauna sessions: “I am the leader of a support group for people with fibromyalgia. I have to have it in order for them to trust me. Once they trust me, and I get the group more established, I will come for sauna sessions and *then* they will be open to that type of healing.” What's going on?

It saddens me that people are so willing to give up on their lives—and that instead of taking responsibility for fixing their problems, they believe someone else. I say, stop worrying about what anyone else says or has gone through. Do your research. And then do what you think is right for *you*. If that doesn't work, try something else and keep going until you find the result you want. Why settle for less?

—Sherri P., April 2008, email communication.

Undiagnosed for over a decade; now well, energetic, and the mother of two healthy children

Obviously this attitude has nothing to do with healing. It's about commitment to an illusory image, not service to those whom one has pledged to help. Put another way, it stems from a place of self-involvement rather than caring.

That said, I don't wish to unfairly charge all physicians with being arrogant. Their training is carefully structured to prevent them from even *thinking* of deviating from the curriculum. Medical students are not routinely taught the basics of real nutrition, let alone holistic therapies that are even more foreign to their sphere of knowledge. Moreover, they're bombarded daily by stressors: academic pressure, competition with peers, constant contact with terminally ill people and death, debt, fear of failure, and worry about lawsuits. They have no time for socializing, relaxation, or family. Most important, they suffer from chronic sleep deficit, which is built into long, grueling shifts—30 hours at a time with just one two-hour nap, generally totaling 130–150 hours of work each month. People who are sleep-deprived are susceptible to being indoctrinated. They also lose the ability to be compassionate. The med school schedule that causes sleep deficit appears to be deliberate.

Studies show that 25% of medical students suffer from depression.⁵ This is why a depleted, sleep-deprived young intern once said to me: "I'm on call 24 hours a day, exhausted, yet I'm expected to be in top form at all times. All I did in medical school was memorize what my teachers wanted me to study. How am I supposed to learn anything new when I'm simply trying to survive medical school?" By the time these students become doctors, they must focus on earning enough money to make the rent and repay their educational loans. This doesn't leave time for healing!

This is why it's easier for doctors-in-training to take the path of least resistance and uphold allegiance to the status quo. Should young doctors oppose the system that molded them, everything they have become (or believe they are) could be invalidated. They would have to substantially revamp their lives if they started criticizing a system in which they have so much invested. How many people have the fortitude to question everything upon which their livelihood—indeed, their very self-concept—depends?

The doctor in chelation therapy cited earlier may have wanted his clients' fees more than he wanted to see them healthy. It's difficult to know his motives unless we ask him. However, not all allopathically trained physicians adhere to the status quo. I know of medical doctors who passionately believe in holistic therapies yet cannot recommend them to their clients because they justifiably fear losing their licenses. Sometimes medical doctors practice time-honored natural therapies anyway—but then they get into trouble. Many successful practitioners have been censured, fined, threatened with revocation of their license, and even on occasion threatened with

On Civil Obedience

Civil disobedience is not our problem. Our problem is civil obedience. Our problem is that numbers of people all over the world have obeyed the dictates of the leaders of their government and have gone to war, and millions have been killed because of this obedience. Our problem is that people are obedient all over the world in the face of poverty and starvation and stupidity and war and cruelty. Our problem is that people are obedient while the jails are full of petty thieves, and all the while the grand thieves are running the country.

—Howard Zinn

American historian, author, professor, and activist
(1922–2010)

the loss of their lives. Some have even died in mysterious ways. Related to this, some supplement manufacturers have told me that doctors in well-known hospitals conduct tests on their products, but insist on remaining anonymous because they fear incurring the wrath of government agencies and the ridicule of their colleagues.

Every year, it seems, a prominent doctor is legally harassed (or dies under suspicious circumstances) for helping to save people's lives with holistic therapies. No matter how reputable the science is behind the therapies, no matter how many grateful clients testify in court on behalf of the practitioner (when allowed to do so), and despite the fact that not a single subject has ever been harmed—legal authorities do everything possible to prevent non-mainstream professionals from ever practicing again. Just a few practitioners who have been unjustly harassed include Stanislaus Burzynski, MD, PhD; Tedd Koren, DC; and William J. Rea, MD.

Clients who seek the services of innovative practitioners are often at risk too. Attempts are made to legally intimidate them. On more than one occasion, a child has been removed from a loving home because his or her parents (often at the child's request) sought a holistic treatment for the child's serious illness.

Legal issues aside, considering the fear of reprisal among members of the medical community, is it any wonder that people are not told about holistic modalities by their doctors?

Nevertheless, a health care provider still has the moral responsibility to uphold the truth. If he is more comfortable with what he has memorized than the questions he thinks to ask, the role of doctor becomes that of a *technician* or *mechanic* and not a *healer*. A health professional is right to become upset when she learns enough to question her training. But a true healer can change and grow. She's open-minded enough to say: "I give

myself rife sessions because they help me, even if I don't totally understand how they work." Is anyone certain how most allopathic drugs work? No—but this doesn't stop doctors from prescribing pharmaceuticals.

Health professionals have the power to break their enslavement to the government-sanctioned licensing boards that allow them to practice. People create licensing boards and people can dismantle or change them. In the last decade, five dentists and seven dental clients filed a lawsuit against California state regulators for a law that prevents dentists from disclosing the dangers of silver-mercury (amalgam) fillings to their clients. The lawsuit maintained that these regulators used their control of dental licenses to threaten and punish dentists who oppose mercury amalgam fillings.

(Whether it's even necessary to confer licenses, what the criteria should be, and who should have the power to license, is another topic.) The point is, a health care provider should be able to offer an informed opinion. If health professionals want to do their best—which includes giving their clients options—they'll have to fight intimidation and corruption. Sometimes this entails working with other practitioners. A group of physicians can often accomplish what a lone physician cannot.

People who want to be well are responsible for becoming well-informed. How many times have you heard someone exclaim, in response to a suggestion to consider Rife Therapy: "How can I convince my family?" Or, "I can't possibly use *rife equipment*! What will my doctor say? She has her own way of doing things." To hear these people speak, you'd never know it's *their* bodies and *their* lives that are at risk. If we are to achieve the good health we say we want, we must take responsibility: rely on our ability to learn and make decisions, instead of constantly yielding to the presumed expertise of infallible doctors.

It takes great courage to follow one's own path, regardless of what others might say or think. The dominant paradigm exerts enormous power and influence. And people can be resistant to change, even if those changes are positive. However, if everyone was willing to ask just a few questions, the momentum could thrust us into an entirely new way of doing medicine. Before we can create a new paradigm, though, we need to appreciate the many ways in which the mainstream paradigm manifests—so insidiously, that it often appears invisible. This understanding can help us avoid constantly making the same mistakes as we strive to build a saner world. This is the topic of the next section.

THE POLITICAL

A Few With The Most

Almost everyone I know is struggling in some way with money. Is there enough to pay the rent (or mortgage), buy quality food, clothing and other necessities—and still have enough spare time and money for leisure and relaxation? What about medical bills? If someone in your family gets sick, can they afford to stop working?

Not everyone struggles, though. A very few, very wealthy individuals enjoy virtually unrestricted access to and control of the world's resources, at the expense of those who don't have access. "Resources" constitutes land,

homes, cars and other goods, income from labor, and actual cash. I'll discuss the specifics of appropriation in a moment, but for now let's examine the numbers. According to a United Nations Human Development Program report, in 1996 there were just 358 *individuals* (all of them billionaires) who owned the same amount of wealth as almost half the population of the *entire planet* (about 6.1 billion people.)⁶ In 2000, this was the wealth distribution for adults:

In the US, 50.8 million households (43% of 119 million) don't earn enough to pay for basic expenses—housing, food, health care, transportation, and a phone.

—United Way ALICE Project, 2018
(Asset Limited, Income Constrained, Employed)

In the US, earnings of the top .001% (almost 1300 households) rose by 636%, while the average annual income of the bottom 50% remained constant at \$16,000 over four decades (adjusting for inflation).

—World Inequality Report, 2018

- ◆ The richest 10% owned 85% of the world's assets.
- ◆ The richest 2% owned 51% of the world's assets.
- ◆ The richest 1% owned 40% of the world's assets.⁷

Almost all of the richest people lived in North America, Europe, and wealthy Asia-Pacific countries. The bottom third of the poor lived in India, Africa, and low-income Asian countries. The poorer half of the world's adults didn't even own a full 1% of the world's assets.⁸

Now let's look at figures for 2013.

- ◆ The richest 10% owned 86% of the world's assets.
- ◆ The richest 2% owned a little more than 51% of the world's assets.
- ◆ The richest 1% owned 46% of the world's assets.⁹

Perhaps US presidential candidate Bernie Sanders summarized it best when he said, during a 2016 speech: "The issue of wealth and income inequality is the great moral issue of our time. . . . Truthfully, there is something profoundly wrong when the richest 80 people in the world own more wealth than the bottom half of the global

population, 3.5 billion people.”¹⁰ As astounding as those figures are, Sanders was quoting outdated statistics; newer ones are even more disparate. Oxfam, an international alliance of charitable organizations devoted to eliminating global poverty, reported that in 2015, the number of richest people had plummeted from 80 to 62. (Oxfam also reported that 1% of people own more wealth than the other 99% combined.¹¹) Even more recent statistics from 2017 indicated that the world’s *eight* wealthiest people had as much wealth as the bottom half of the world’s population. Affluence was still concentrated in the US and Europe, although China’s assets had increased fivefold since 2000.¹² Even if you review just the older figures, it’s clear that the global distribution of wealth is severely skewed.

It can be difficult to comprehend the massive amounts of wealth under discussion, so here are a few ways to understand what these sums of money can provide:

- ◆ In 2013, the investment earnings of the richest 1% of Americans—\$1.8 trillion—were more than the entire combined budgets for Social Security (\$860 billion), Medicare (\$524 billion), and Medicaid (\$304 billion).¹³
- ◆ The richest 14 people in America made enough money to hire two million pre-school teachers or emergency medical technicians.¹⁴
- ◆ In 2016, the world’s wealthiest 500 people controlled a total of \$4.4 trillion. In 2017, the wealth of these same 500 people increased to \$5.3 trillion, or (\$5,333,333,333,333.00). “For context,” one reporter wrote, “the United States of America—the world’s largest economy—has a gross domestic product of somewhere around \$19 trillion.”¹⁵

You’ll undoubtedly recognize the names of some of the wealthiest. Bill Gates, who started the Microsoft computer software company, was cited in 2014 as the richest American for the twenty-first year in a row, with a net worth of \$81 billion. He didn’t earn his money cleanly, though. Many articles have been written about Gates’s unscrupulous and predatory business practices. One practice is *planned obsolescence*, deliberately limiting the life of a product in order to force a consumer to replace it. The company makes its software unusable after a certain period by making it incompatible with newer software and/or by no longer providing customer support for it. Another ploy Microsoft uses is configuring its products in such a way that the software will work when

paired only with other Microsoft products—which the customer is then obliged to purchase. Lawsuits have been filed against the company for its failure to comply with (legal) industry standards and for implementing illegal monopolistic practices in an attempt to stifle competition.

Microsoft also has a history of mistreating its workers. To avoid paying medical benefits, the company has called many of its employees “contract” or “temporary” workers. Although Microsoft does offer more benefits to what it calls its “permanent” workers, it imposes so many mandatory overtime hours that in 1989 the company was referred to as a “Velvet Sweatshop.”¹⁶ Predictably, Microsoft is notorious for not paying all the taxes it owes.

Amazon founder and CEO Jeff Bezos is another incredibly wealthy person whose fortune is built on unjust and illegal business practices. Amazon has a global online presence with hundreds of huge warehouses in North

America, South America, Europe, Asia, and Australia. It’s a leading seller of books, music, DVDs, video games and other electronics, clothing, food, and just about anything else you can imagine (and some items that you can’t!). Over 100 million products are on its UK website alone. For a modest extra fee, Amazon’s consumers may buy unlimited two-day shipping with free returns, which is a bargain.

The problem is, Amazon is an awful place to work. The title of an article by Simon Head says it all: “Worse than Wal-Mart: Amazon’s sick brutality and secret history of ruthlessly intimidating workers,” with the subtitle “You might find your Prime membership morally indefensible after reading these stories about worker mistreatment.” The British author writes, “When I first did research on Walmart’s workplace practices in the early 2000s, I came away convinced that Walmart was the most egregiously ruthless corporation in America. However, ten years later, there is a strong challenger for this dubious distinction—Amazon Corporation.” Not surprisingly, the corporate world has a much different opinion of Amazon: it’s ranked, along with Apple, “as among the United States’ most esteemed businesses.”¹⁷

Amazon forces its employees to work under draconian labor conditions “reminiscent of the nineteenth and early twentieth centuries.” The grueling manual labor consists of unloading and shelving products from wholesalers, and then taking those products from shelves, and boxing and shipping them to customers. Required to meet a quota, which makes even toilet breaks inconvenient, employees are timed for their performance. Head writes:

[A scientific] study suggests that Apple deliberately sabotages old products . . . the number of . . . searches for “iPhone slow” spiked every time a new phone model was launched and made available to the public.

—Kalee Brown
Collective Evolution
 September 3, 2017

Amazon treats a second significant grouping of men and women with whom it has dealings—its employees—with the very opposite of [the] care and trust [it says it gives its customers]. . . . At all Amazon's centers . . . the cult of the customer . . . provides the rationale . . . to keep pushing up employee productivity while keeping hourly wages at or near poverty levels. . . . As at Walmart, Amazon achieves this with a regime of workplace pressure . . . where employees have to struggle to meet their targets and where older and less dextrous employees will begin to fail. As at Walmart, there is a pervasive 'three strikes and you're out' culture, and when these marginal employees acquire too many demerits ("points"), they are fired. . . .

[One undercover journalist hired briefly by Amazon] was able to make the pace, but he saw older workers who could not and were 'getting written up a lot' and most . . . were fired. A temporary employee at the same warehouse, in his fifties, worked ten hours a day as a picker, taking items from bins and delivering them to the shelves. He would walk thirteen to fifteen miles daily. He was told he had to pick 1,200 items in a ten-hour shift, or one item every thirty seconds. He had to get down on his hands and knees 250 to 300 times a day to do this. He got written up for not working fast enough, and when he was fired only three of the one hundred temporary workers hired with him had survived. Other examples include providing UK employees with cheap, ill-fitting boots that gave them blisters; relying on employment agencies to hire temporary workers whom Amazon can pay less, avoid paying . . . benefits [to], and fire . . . virtually at will; and [intimidating] . . . temporary workers lodged in a company dormitory near Amazon's depot at Bad Hersfeld, Germany, with guards entering their rooms without permission at all times of the day and night. These practices were exposed in a television documentary shown on the German channel ARD in February 2013. . . .

Perhaps the biggest scandal in Amazon's recent history took place at its Allentown, Pennsylvania, center during the summer of 2011. The scandal was the subject of a prizewinning series in the Allentown newspaper, the *Morning Call*, by its

reporter Spencer Soper. The series revealed the lengths Amazon was prepared to go to keep costs down and output high and yielded a singular image of Amazon's ruthlessness—ambulances stationed on hot days at the Amazon center to take employees suffering from heat stroke to the hospital. Despite the summer weather, there was no air-conditioning in the depot, and Amazon refused to let fresh air circulate by opening loading doors at either end of the depot—for fear of theft. Inside the plant there was no slackening of the pace, even as temperatures rose to more than 100 degrees.¹⁸

Investigative journalist Carole Cadwalladr confirms these conditions in "My week as an Amazon insider." Amazon's temporary workers earn minimum wage, pushed

"to the limits of the EU working time directive," and are fired "if they take three sick breaks in any three-month period." She also discusses Amazon's "tax avoidance": "Amazon's payment of minimal tax in any jurisdiction is the future of global business. A future in which multinational corporations wield more power than governments." Unfortunately, areas with "high unemployment and low economic opportunities" often feel

obliged to capitulate to this corporation. As a condition for Amazon placing a distribution center in Wales, the Welsh government gave Amazon £8.8 million in grants.¹⁹ The company has similar arrangements worldwide.

Some of Amazon's employees live in homeless shelters or in their cars. In December 2016, seasonal workers were living outside in the bitter cold because they couldn't afford to travel to work. European newspapers featured headlines such as: "Hard-pressed Amazon workers in Scotland sleeping in tents near warehouse to save money"²⁰ and "Where the Amazombies sleep: Tented woods near Amazon's massive distribution centre is 'lived in by Christmas worker elves' who are barely paid the minimum wage to work blistering 12-hour shifts with timed toilet breaks."²¹ Despite the 60-hour workweeks that these employees were forced to accept, they had no benefits.

Why would workers tolerate such conditions? Cadwalladr wondered. "'I've worked everywhere,' a forklift truck driver tells me. 'And this is the worst. They pay shit because they can. Because there's no other jobs out there. Trust me, I know, I tried. I was working for £12 an hour in my last job. I'm getting £8 an hour here. I worked for Sony before and they were strict but fair. It's the unfairness that gets you here.'"²²

The combined \$248.5 billion wealth of just three people—Bill Gates, Jeff Bezos and financier Warren Buffett—is greater than that of the poorest 160 million Americans.

—statistics from "Billionaire Bonanza 2017,"
Institute for Policy Studies
ips-dc.org/
report-billionaire-bonanza-2017

Even many of the merchants who sell through Amazon aren't happy. In lawsuits against the corporation, they have charged it with (among other acts) sabotage, intentional interference with contracts, false advertising, and anti-competitive business practices. In 2011, M-Edge, a manufacturer of eBook accessories including jackets for Amazon's Kindle eBook reader, filed a lawsuit against Amazon for attempts to "hijack the product through threats, deceit, interference with M-Edge's customer relationships, and patent infringement."²³ Amazon has a history of revising its contracts with selected desirable vendors so that the new terms give it a higher percentage of sales fees than what had been originally negotiated. After M-Edge refused to accept Amazon's latest demands of a much higher commission—35% instead of the originally agreed 15%—the corporate giant began manufacturing its own lighted e-reader jacket, which looked suspiciously like M-Edge's patented design. Amazon further retaliated by "de-listing" M-Edge, making that company's product less visible on its website. "This case presents a classic example of unlawful corporate bullying," M-Edge's lawsuit stated.²⁴

One more thing. Amazon's corporate income taxes are well below the official rate. For example, in 2011, Amazon paid a lower tax rate than a US household making \$42,500 a year.²⁵ In 2017, after earning \$5.6 billion in income, Amazon took advantage of corporate loopholes in the US tax laws and paid no federal income taxes at all.²⁶

Whether a multinational corporation develops its own products or sells the products of others, the business strategies are similar. This could easily apply to Whole Foods (which merged with Amazon in August 2017) or hundreds of other companies. They're all willing to exploit their workers, even though it's the hired help who provide the owners / founders / CEOs with enormous wealth. Some well-known companies that pay few or no taxes, or receive US government subsidies, include Citigroup, ExxonMobil, FedEx, General Electric, Ikea, Pepsi, and the drug companies Merck and Pfizer.²⁷

The richest of the rich, which comprise barely 0.01% of the world's population, are commonly known as the *power elite* or *ruling elite*. Social scientist and attorney Riane Eisler has given a name to the elitist policy: the *dominator paradigm* (or *dominant paradigm*). The dominator paradigm doesn't regard their legal or monetary privileges as criminal. On the contrary, their privileges (which restrict us) are promoted as normal because they're so commonplace. We perceive these activities in one of three ways: 1) as ethical and right, in which case there's nothing that needs to be done about them; 2) as unfair, but "That's simply the way things are, and we're powerless to change them"; or 3) as unfair—so unfair, that "We're not taking it anymore, and it's time to do something about it."

Chances are, if you're reading this book, you're dissatisfied with the medical mindset of the dominator paradigm. Holistic health seekers do more than investigate, challenge their doctors, and think of other possibilities. They're more likely to reject attempts by others to regulate and intrude in their lives. Independent thinkers value the freedom to make their own mistakes and learn from them. They don't want someone else to make choices for them, especially if those "choices" interfere with their quality of life or cause harm.

People who understand the scope and implications of holistic living may tend to apply its principles to all areas of life—physical, emotional, mental, and spiritual. They say to themselves, "We're not taking it anymore, and it's time to do something about it."

They Thought They Were Free

What no one seemed to notice was the ever widening gap between the government and the people. . . . [The government that] did not want us to think anyway gave us some dreadful, fundamental things to think about . . . and kept us so busy with continuous changes and "crises," and so fascinated . . . by the machinations of the "national enemies," without and within, that we had no time to think about these dreadful things that were growing, little by little, all around us.

Each step was so small, so inconsequential, so well explained or, on occasion, "regretted," that unless one understood . . . what all these "little measures" . . . must some day lead to, one no more saw it developing from day to day than a farmer in his field sees the corn growing. . . . Each act is worse than the last, but only a little worse. . . . You wait for one great shocking occasion, thinking that others, when such a shock comes, will join you in resisting somehow. You don't want to act, or even talk, alone . . . you don't want to "go out of your way to make trouble." But the one great shocking occasion, when tens or hundreds or thousands will join with you, never comes.

That's the difficulty. The forms are all there, all untouched, all reassuring, the houses, the shops, the jobs, the mealtimes, the visits, the concerts, the cinema, the holidays. But the spirit, which you never noticed because you made the lifelong mistake of identifying it with the forms, is changed. Now you live in a world of hate and fear, and the people who hate and fear do not even know it themselves, when everyone is transformed. . . . You have accepted things you would not have accepted five years ago, a year ago, things your [parents] . . . could never have imagined.

—Milton Mayer
*They Thought They Were Free:
 The Germans, 1938–45* (1955)

When Corporations Govern

Establishing Power

When I ask people what the word “government” means, they intuitively understand that the all-encompassing, pervasive activities of “government” are entrenched in virtually all aspects of life: ownership of property, how one earns a living, the ease (or not) of travel, even standards for psychology and religion. However (at least as I was taught in grammar school), a government is supposed to serve its people and not vice-versa. When the United States of America was born, there were far fewer restrictions on ordinary citizens than there are today. Corporations also had far less power. Yet the US legal system has been carefully (and surreptitiously) crafted to gradually allow certain institutions, organizations and specialty groups (including banks) to impinge on the rights of the majority.

How did this happen? David Morris, in “Corporate Might vs. Citizens’ Rights,” explains:

In the nineteenth century, the vehicle for curbing the amoral power of corporations was the state charter. In return for awarding the corporation the privilege of limited liability, states inserted in their corporate charters certain safeguards. These limited the number of business endeavors in which a given corporation could engage. Restrictions on size were common. As late as 1903, almost half of the states limited the duration of corporate charters to between 20 and 50 years. If corporations did not live up to their responsibilities, legislatures revoked their charters.

But . . . a combination of judicial and legislative mischief eliminated virtually any curbs on corporate power. . . . Without discussion or debate, the Supreme Court . . . [gave corporations] the same constitutional protections as natural persons. At the state level, charters were changed to allow corporations not only limited liability, but unlimited life and size and reach.

The Supreme Court decision gives corporations similar rights to natural persons, but *in practice this doesn’t mean giving them similar responsibilities*. A natural person who breaks the law often goes to jail. . . . *But corporations cannot go to jail, and very,*

very rarely do those directing the corporation spend even a day in lockup. And in the 20th century, no corporation was ever given capital punishment, no matter how many people died as a result of its actions. [emphasis added]²⁸

As a result of this strategy, the power elite owns and operates the corporations and banks that are now the true (and hidden) global rulers. A new dictionary word has even appeared: *corporatocracy*, which means “an economic and political system controlled by corporations.”²⁹

Under corporatocracy, transnational and multinational corporations accrue power and make money by displacing the laws of the countries they’re occupying. To hijack the laws of sovereign nations, members of the power elite meet secretly. They draft a classified document called an

“agreement” (although the public isn’t allowed to see it, and wouldn’t support this “agreement” if they did see it). The document permits corporations to sue governments if those governments pass laws that *might* infringe on corporate profits. Thus, in the name of protecting or maximizing profits, corporations like AT&T, Walmart and Monsanto (now Bayer) have power over how we use the Internet, the safety of the food we eat, and how much we can earn. Material once freely shared and critiqued on the Internet is now unavailable (censored). Small

family farms have difficulty surviving, while multinational corporations establish industrial agriculture and factory farms that plant GMOs and spray pesticides, damaging our soil, air, and water. (This “agreement” is always promoted as “pro-agriculture.”) More and more shoddy, unsafe products continue to be imported into North America (where profit allowances are strong). Also in the name of profit, corporations can yank jobs out of the US and hire workers offshore for a lot cheaper. Under this practice of *outsourcing*, North Americans can’t possibly compete with Vietnamese making less than 65 cents per hour.

Health care falls under corporate rule as well. In the name of profit, drug companies can fight regulations that protect consumers and give them more choices. This means that drug patents can be extended. It means that drug companies are immune to lawsuits when members of the public are killed or maimed due to inadequately tested (or untested) drugs. It also means that natural, effective, non-invasive cancer cures—such as apricot pits (which contain Vitamin B-17) and cansema (Black Salve,

An analysis of the relationships between 43,000 transnational corporations has identified a relatively small group of [147 interconnected] companies, mainly banks, with disproportionate power over the global economy. . . . the study, by a trio of complex systems theorists at the Swiss Federal Institute of Technology in Zurich, is the first to go beyond ideology to empirically identify such a network of power.

—Andy Coghlan and Debora MacKenzie
“Revealed, the capitalist network
that runs the world”
New Scientist Live, October 19, 2011

made with bloodroot and other herbs)—cannot legally be advertised or sold for medical purposes. This profit agenda may also extend to the care you receive from your personal doctor or specialist, who is forbidden to offer, or even talk about, any form of holistic treatment that would compete with pharmaceutical industry profits.

Big Pharma's reach is extensive. Microsoft founder Bill Gates owns millions in Monsanto and drug company stocks. The nonprofit Bill and Melinda Gates Foundation dispenses vaccines, usually in less technologically advanced countries where people have brown and black skin, not white. The Gates foundation invests—tax free—in the very drug companies in which Bill Gates owns millions of dollars worth of stocks. Disease and death have skyrocketed in those parts of the world “gifted” with Gates's vaccines. In 2015 in India, where many children died from Gates's vaccines, neither the children nor parents had given informed consent for the inoculations.

Global Bullying and Political Consent

The elite manipulate and control the politicians who have agreed to create and enforce repressive laws. The politicians always benefit in some way, whether they're directly or indirectly financially tied to the corporations. The wealthiest industrialized corporate nations of the world are able to implement their rules without the smaller, less industrialized nations having much or any veto power, for two reasons. One, these smaller countries don't have much money. In fact, most of them are far poorer than even modestly wealthy corporations. Unless these nations comply with the demands of the larger multinational corporations, any money flowing into them from foreign investments and industry will be withdrawn. Two, these smaller countries typically don't have much military strength. They acquiesce to the mightier powers like the schoolchild who's obliged to surrender to the biggest bully on the block. There's always the very real threat of a military coup, during which a democratically elected leader of a country can be killed and replaced by someone whom the corporations and their allies like better and who follows their rules.

This dictator agenda is spreading like an unchecked cancer, worldwide. Laws are obliterating people's right to govern themselves while granting corporations virtually unlimited power to exploit the resources and labor of the people who live in those countries. There have been several laws already implemented or attempted during the last several decades. It's important to know what they are so we can recognize and prevent similar efforts in the future. On January 1, 1994, the North American Free Trade Agreement (NAFTA) was signed by Canada, Mexico, and the United States (and is currently being

Your Cheapest Items: Made in Sweat Shops

Unscrupulous business practices abound. Even accounting for the differences in currency between the country buying the products (the US) and the countries producing them (India, China), overseas workers are paid far less than a living wage. For example, as reported in the article “Sweatshop Mythbusters,” the Megatex factory in Port-au-Prince, Haiti (which makes several lines of clothing for Disney) paid its workers \$2.15 per day. The average daily expenses of the workers were \$6.12.³⁰ In many countries, laborers are given few or no breaks (or bathroom time), and no lunch hour. They are forced to work six- or seven-day weeks. Children as young as eight years old work in factories. Often, workers are locked up at night in company compounds to prevent them from escaping.

considered for renewal). Under the auspices of several international organizations—including the World Bank, the International Monetary Fund (IMF) and the World Trade Organization (WTO)—the dominators overruled laws of individual countries. ISDS, an acronym for Investor State Dispute Settlement, is part of a provision within NAFTA, giving corporations even more power when countries pass laws that the corporations don't like. Under the ISDS, if a corporation convinces a panel of *only three corporate attorneys* that a country's law violates its special rights under NAFTA, the law is overturned and the corporation is granted millions or billions of (taxpayer) dollars as compensation for the “transgression.” There's also the TPP (Trans-Pacific Partnership). As might be expected, this “free trade partnership” is actually a secret deal of corporate expansion. Like NAFTA before it, the TPP allows corporations to do whatever they want at the expense of ordinary people. The TPP has been signed by the United States and at least eleven other countries. As of this writing, there is an organized resistance across North America to prevent the TPP from becoming law.

No matter what they're called, these and similar “contracts,” “agreements,” or “treaties” are grabs for power.

Legal Thefts

Virtually every country on Earth has laws against theft. Yet today, corporations are permitted to legally steal—thefts that, if committed by individual persons, would likely land those persons in jail. Here's a brief summary of the different ways in which corporations steal. Again, I'm discussing this in some depth because once we understand the dynamics of what has systematically been taking place, we will be in a better position to change the outcome. Our health and our lives are at stake.

The Politics of Food

Food becomes us. We are what we eat. . . . Eating is the ultimate ethical act. It is the ultimate political act. It is the act where we decide whether we're going to be part of raping the planet, killing the farmers, killing diverse species, and destroying our health in the process, too; or we will be part of the protection of species, the protection of the atmosphere, the protection of the . . . givers of food. . . . The idea that you have to introduce more chemicals and you have to introduce miracle seeds to increase productivity and to make rural incomes grow is not just not true, it is a blatant lie. . . . Our ignoring this lie is what is leading to the genocide of farmers.

Genetic engineering revolution is being driven by global corporations. . . . With changes in US law, there has been this assumption that you can now treat life as an invention. Seeds, therefore, can be treated as the patented property of corporations. And if they are the patented property of corporations, you basically treat the farmer as someone who has borrowed your technology and has to pay a license fee and royalty for it, when all that the farmer has done is continued to do what is their duty, which is to grow seed out from the last crop.

The farmers are getting squeezed. . . . [So far] 140,000 farmers have committed suicide. Ninety percent of them committed suicide by drinking the same poisons that had got them into debt—pesticides. . . . We are talking about a genocide that has no stoppage unless we change our food paradigm.

—Vandana Shiva

physicist, social change activist
and director, The Research Foundation for Science,
Technology, and Ecology in New Delhi, India.

Excerpted from "The Politics of Food:
Protesting the Anti-Green Revolution,"
speech given at Emory University in Atlanta, Georgia, US
October 17, 2006

- ◆ Food, a need that throughout human history has been considered a basic right, is now being treated as a consumer item that corporations call "intellectual property." For example, Monsanto takes crop seeds, alters them in its genetics laboratories, and then receives patents on these seeds. When genetically engineered seeds appear on the lands of farmers—even if these farmers did not voluntarily plant the seeds and don't want them—Monsanto sues for breach of patent. As of this writing, there are over 40 such cases worldwide. (See Insert, "Persecuting Organic Farmers.") Related to this, countries who do not want to accept imported GE foods can be fined or sued for impeding commerce under globalization policies.

- ◆ People of poor nations are starving because their land—which is managed by foreign investors instead of the people who live on the land—is being used to grow coffee, cacao, and sugar cane. Few cocoa bean pickers have tasted chocolate because they can't afford it. If these lands were used to plant food crops that the people could actually eat, they wouldn't be starving.
- ◆ Water, another human necessity, is also being treated worldwide as a consumer, for-profit item. In many parts of the United States, Nestlé has been receiving, from politician cronies in secret negotiations, tax breaks and grants to build new bottling facilities. The company pays almost nothing for spring and municipal waters, which it then bottles and ships all over the country to sell at a profit. In Flint, Michigan, residents pay an average of \$140 a month for water—which is undrinkable because it's contaminated with lead. One hundred fifty miles away, Nestlé pays just \$200 a year for the water it bottles and sells. Drew Philp, who lives in Detroit, Michigan, reports that "Nestlé siphons off 150 gallons of water per *minute* from the Great Lakes aquifers to serve their bottled water operation. Aside from a small permitting fee, they pay the residents of Michigan exactly zero dollars for the privilege to remove our natural resources held in common. In fact, the state gave them \$13 million in tax breaks to locate the plant here. Conveniently, Nestlé's Michigan spokeswoman, [the ironically named] Deborah Muchmore, is married to the governor's chief of staff, Dennis Muchmore. Could you imagine BP [British Petroleum] pumping the oil from beneath Saudi Arabia while paying nothing to the owners? Nestlé is now petitioning the state to increase their allowance to 400 gallons a minute, still, of course, for free."³¹

Nestlé is even stealing water from areas in California that are undergoing severe drought and may run out of water. Debra Anderson, president of the McCloud Watershed Council in California, describes "the division they caused in our town . . . [because they received the rights to] an unlimited amount of ground water. It was an unheard of 100-year contract . . . [allowing Nestlé to pay] less than a tenth of a cent a gallon. This project would add over 600 truck trips a day, 24 hours a day, seven days a week, to our beautiful two-lane scenic volcanic highway. . . . They would destroy our historical mill site by tearing down all of the remaining historical buildings . . . Nestlé had truly treated our community as though we were a third world country and this all came on the guise of boosting our economy by creating jobs, which in reality were too few jobs for too little pay."³²

Persecuting Organic Farmers

Before it was bought by Bayer, the mega-corporation Monsanto—dubbed “Monsatan” by clean food activists worldwide—increased the intensity of its bullying tactics against non-GMO farmers. The story of veteran Canadian farmer Percy Schmeiser is just one example of many illustrating how Monsanto has used its power and wealth to try to dismantle the clean food movement and usurp people’s right to grow crops of their choice.

Schmeiser comes from three generations of organic farmers who save their own seeds and replant the following season. In 1998, detectives working for Monsanto trespassed onto Schmeiser’s land, took some canola (rapeseed) plants without his permission, and then reported to Monsanto that its genetically modified, herbicide-tolerant Roundup-Ready® canola had spread across almost 1,000 acres of Schmeiser’s canola fields. After the 70-year-old farmer was informed by Monsanto that his crops contained their exclusive patented seed technology, he was sued for violating their patent—because of plants that the farmer neither wanted nor planted! It was first assumed that Schmeiser’s crops had become contaminated when genetically engineered canola pollen from neighboring farms blew onto his land, but it’s now believed that a farmer who worked for Monsanto secretly grew Roundup-Ready® canola on Mr. Schmeiser’s land.

Setting aside the wisdom of growing even non-GM canola (see Chapter 3, page 310), Monsanto’s tactics were deceitful and brazen. Fortunately, Percy Schmeiser’s eloquence and experience in local politics, his anger at being deceived, and the financial support sent to him from people all over the world, gave him the fortitude to fight. In a countersuit, he charged Monsanto with libel (because it had publicly accused him of committing illegal acts), callous disregard of the environment, and the contamination of his non-GM canola seed that had taken him over 40 years to develop.

The Canadian federal judges who first heard the case supported Monsanto’s patent infringement claim. They said it didn’t matter *how* the seed had migrated onto Schmeiser’s land, whether the farmer *wanted* the GM crops, or even whether he *intended* to benefit from them: theoretically, Schmeiser *could* have used the seeds. In subsequent trials, the court conceded that the GMOs in Schmeiser’s crops had not provided any advantage, and that Schmeiser had not earned any profits attributable to the genetically modified seeds. Nevertheless, the Canadian Supreme Court stated that Schmeiser’s planting and cultivation of GM canola constituted “use” of Monsanto’s patented invention. And because the “use” of a patented invention without compensation was still considered the more serious

infraction, the Canadian Federal Court upheld the validity of Monsanto’s patent. It dismissed Schmeiser’s challenge to the patent (in which he stated, correctly, that Monsanto cannot control the spread of GM seed). Moreover, the judge decreed that while a farmer can claim ownership of crops growing in his fields when they’re inadvertently carried there by pollen or wind, this does not pertain to patented GM seed.

At least Percy and his wife Louise enjoyed a partial victory. According to a 2008 out-of-court settlement, Schmeiser was not obligated to give Monsanto any profits from his crops, did not have to pay damages, and did not have to reimburse the company for its legal bills. Furthermore, Monsanto had to agree to pay all the cleanup costs of the Roundup-Ready® canola that had contaminated the Schmeiser fields. Fortunately, Mr. Schmeiser was allowed to discuss the case and would be permitted to sue Monsanto again if further contamination occurred.

Since 2000, Schmeiser has been a featured speaker at conferences on genetic engineering and seeds in India, Pakistan, Bangladesh, New Zealand, the United States, and other countries. In October 2000 in India, he received the Mahatma Gandhi Award in recognition of his non-violent work for the betterment of humankind. In December 2007, Percy and Louise were the recipients of the Right Livelihood Award from a Swedish charitable foundation.

Despite the Schmeiser victory, which may have provided a legal precedent for other farmers, Monsanto has still been abusing its power. Unwanted GM seeds that accidentally migrate onto a farmer’s land may still be construed as a “use” of the company’s patented inventions. Since 1997, the corporation has filed an average of nine similar lawsuits a year, worldwide. In a recent audacious display, Monsanto sued the state of California for listing its pesticide glyphosate (Roundup®) as a carcinogen—even though the World Health Organization agrees with this classification, and (as has been proven in court) Monsanto’s own studies from four decades ago showed that the herbicide in fact does cause tumors. The company has suppressed this data and lied about it. Because California’s Safe Drinking Water and Toxic Enforcement Act forbids listed chemicals from being dumped into the state’s drinking water, Monsanto doesn’t want glyphosate to be listed: then the company would be held accountable for its toxic herbicide seeping into the public’s water supply.

Monsanto subsidiaries, now the largest seed supply companies in the world, seek to own, control, and manipulate humankind’s food supply—whether you’re a farmer or an individual who plants a garden.

We must fight the battle that is before us: human beings versus monstrous corporations and their body-snatched government puppets. . . .

There are two kinds of politics in the world: the politics of love and the politics of fear. Love is about cooperation, sharing and inclusion. It is about the elevation of each individual to a life neither suppressed nor exploited, but instead nourished to rise to its full potential—a life for its own sake and so that we may all benefit by the gift of that life. Fear and the politics of fear is about narrow ideologies that separate us, militarize us, imprison us, exploit us, control us, overcharge us, demean us, bury us alive in debt and anxiety and then bury us dead in cancers and wars. The politics of love and the politics of fear are now pitted against each other in a naked struggle that will define not only the 21st century but centuries to come. We are the Sons and Daughters of Liberty in that struggle, indeed we are. Let us not shirk from the mission that fate has bestowed upon us, for it has done so as a blessing.

—Doris “Granny D” Haddock
(1910–2101)

She walked across the United States in 1998 to protest the corporate takeover of the world. The above is excerpted from an August 16, 2003 speech given in Hood River, Oregon, US.

In poor countries, corporations are setting up expensive equipment to redirect, repackage and distribute water, after which they charge the peasants for using what was once simply collected or bought for a very nominal fee. During the last two decades this happened in Bolivia, one of the poorest countries in South America. In exchange for a multi-million dollar loan, Bolivia’s corrupt government allowed a private company to take charge of water “services.” However, this private water company charged the Bolivian people 35% to 300% more than what they had been paying, so water cost more than food. For some people, water bills comprised half their monthly earnings. When a movement of farmers, workers, peasants and others responded with a general strike, the government—after declaring martial law and killing civilians—revoked its water privatization legislation. However, the water privatization company then sued the Bolivian government for \$40 million due to “breach of contract,” claiming that investors’ rights take precedence over the rights of the people who live in that country.

In Canada, the province of British Columbia has a law forbidding exports of its water. A California-based company called Sun Belt, claiming that this lack of access would force it to lose a \$10 million profit, sued

the government of Canada, citing a violation of its NAFTA-based investor rights. The status of the case is unclear, as NAFTA proceedings are open to neither the public nor journalists.

- ◆ Similar to the situation with water, laws established by nations to protect the environment can be overturned by corporations, on the premise that these environmental laws are an impediment to free trade.
- ◆ Also similar to the situation with water, laws created by nations to protect the labor force (to ensure realistic wages and fair treatment of the workers) can be challenged by corporations, on the premise that these laws are an impediment to free trade.
- ◆ Corporations, not individual nations, decide when and where to erect offices, factories, pipelines, and dams. They also decide the circumstances under which they conduct business. If the government of a country wants to exercise its right as a *sovereign nation*—that is, determine its own destiny—the corporation, backed by international law, can sue the country for preventing (the unlimited expansion of) commerce.
- ◆ Under international “globalization” laws, any country’s effort to protect its people, food, and natural resources is considered an “impediment to free trade” and is therefore a crime. “No one should be above the law,” writes David Morris. “Yet one entity is granted a *de facto* exemption from [this principle] . . . the corporation. It is an odd exception. After all, corporations can wield power and wreak damage a million times greater than can an individual.”³³

Depraved acts are occurring daily all over the world. Whether you identify as a capitalist, conservative, liberal or socialist, or consider yourself the most apolitical person around: unless you belong to the power elite, access to your choice of nutritional supplements and other related products is being restricted. Access to the health care you want and deserve is also being threatened until it’s permanently legislated out of existence. Furthermore, people are being forced to submit to medical interventions that they *don’t* want, such as mandatory vaccinations, establishment medicine cancer protocols, and forced sterilizations. The “alternative” press increasingly reports that people are being prosecuted as criminals for choosing non-mainstream therapies. Children who receive holistic treatments (even if it’s their own choice) are being removed from their homes and put into foster care. Health care providers are being prosecuted as criminals for offering the therapies. Often they are fined and their licenses are revoked. In many cases, they are even being sent to prison.

Dominator Paradigm Propaganda

Public Relations Strategies

In 2001, a groundbreaking book was published called *Trust Us, We're Experts: How Industry Manipulates Science and Gambles With Your Future*. The authors explained that much of what people believe is factual (or “common knowledge”) is actually bias.

When you hire a contractor or an attorney, they work for you because you are the one who pays for their services. The PR [public relations] experts who work behind the scenes and the visible experts who appear on the public stage to “educate” you about various issues are not working for you. They answer to a client whose interests and values may even run contrary to your own. Experts don’t appear out of nowhere. They work for someone, and if they are trying to influence the outcome of issues that affect you, then you deserve to know who is paying their bills.³⁴

Chiropractor Tim O’Shea discusses some of the ploys used by public relations (“PR”) firms to create acceptance by the public.

When PR firms attack legitimate environmental groups and alternative medicine people, they . . . use special words which will carry an emotional punch: “outraged,” “sound science,” “junk science,” “sensible,” “scaremongering,” “responsible,” “phobia,” “hoax,” “alarmist,” “hysteria.” . . . As the science of mass control evolved, PR firms developed further guidelines for effective copy. Here are some of the gems:

- ◆ Dehumanize the attacked party by labeling and name calling.
- ◆ Speak in glittering generalities using emotionally positive words.
- ◆ When covering something up, don’t use plain English; stall for time; distract.
- ◆ Get endorsements from celebrities, churches, sports figures, street people—anyone who has no expertise in the subject at hand.
- ◆ [Use] the “plain folks” ruse: us billionaires are just like you.
- ◆ When minimizing outrage, don’t say anything memorable . . . point out the benefits of what just happened . . . [and] avoid moral issues.³⁵

“Front” groups, common in industrial circles, are organizations whose names disguise the real purpose

Who’s Doing the Financing?

The Coca-Cola Company, which makes soda pop, has a history of “sponsoring” (giving money to) the following governmental organizations, foundations, and medical schools. This is only a small sample of recipients. Also, be aware that Pepsi and other companies make similar contributions.

- ◆ **Governmental Agencies:** Centers for Disease Control; Health and Human Services; National Heart, Lung, and Blood Institute; National Institute of Child Health and Human Development; National Institutes of Health.
- ◆ **Medical Schools:** Emory University, Harvard Medical School, Medical University of South Carolina, University of Georgia Department of Foods and Nutrition, University of Washington Center for Public Health Nutrition.
- ◆ **Public Health Organizations and Foundations:** Academy of Nutrition and Dietetics, American Academy of Pediatrics, American Diabetes Association, American Cancer Society, American College of Cardiology, American College of Sports Medicine, American Heart Association, American Lung Association, American Medical Association, American Red Cross, Center for Food Integrity, International Life Sciences Institute North America, National Dental Association, National Black Nurses Association, National Hispanic Medical Association, and (incredibly!) The Obesity Society.

—data from Daniel G. Aaron and Michael B. Siegel,
“Sponsorship of National Health Organizations
by Two Major Soda Companies,”

American Journal of Preventive Medicine, January 2017

of the groups. In fact, common-use terms have been incorporated into the names of organizations that are doing the very *opposite* of what the terms mean. This practice of *reversals* is a standard strategy of the dominator class, as depicted in the chart on the following page. Other names whose commonsense meanings belie the true purposes of the groups are Advancement of Sound Science Coalition, Air Hygiene Foundation, Alliance for Better Foods, American Council on Science and Health, Center for Produce Quality, Consumer Alert, Industrial Health Federation, International Food Information Council, and Manhattan Institute.

One more thing. It’s always useful to know who is financing an organization—whether the organization is part of government, a nonprofit, a charity, or an institution such as a university. See Sidebar, “Who’s Doing the Financing?,” which provides a brief but representative overview.

Name of Group	Common Sense Meaning	Who's Really Behind the Group
Citizens for Fire Safety	Tips on how to prevent fires in the workplace and at home, such as not smoking in bed and not leaving candles or open flame unattended.	Flame Retardant Manufacturers, including North American Flame Retardant Alliance. <i>Note: Flame retardants consist of highly toxic chemicals used in products made of plastics, textiles, foam and wood, that lessen the chance of fires starting or spreading.</i>
Non-Smoker Protection Committee	Designed to protect the rights and health of non-smokers from the effects of secondhand smoke.	Front group for the tobacco industry, funded by R.J. Reynolds Tobacco Company. R.J. Reynolds had backed a November 2006 ballot initiative called the "Arizona Non-Smoker Protection Act"—which would have allowed smoking in all bars and some restaurants statewide. This would have also overturned smoking bans and prohibited cities from adopting strict smoking bans in the future.
Citizens for Health (CFH) & Natural Solutions Foundation (NSF)	Extremely vague, this could mean anything. Natural health aficionados might assume it's an organization dedicated to healthy lifestyle choices, but "health" could also be construed to mean managing disease by taking pharmaceuticals.	CFH's related website, FoodIdentityTheft.com, "alerts consumers about misleading food and beverage packaging and deceptive advertising." ³⁶ It warns about high fructose corn syrup and the artificial sweetener Splenda®, but it does receive money from the sugar industry. ³⁷ According to the International Advocates for Health Freedom, CFH and the NSF are "controlled opposition groups on the Codex issue. We believe the true purpose of these groups is to assist the pharma dominated vitamin trade associations by recommending grass roots actions which appear plausible on the surface to the poorly informed, but which upon close inspection fail to hold up to careful scrutiny." ³⁸ The IAHF warns that even though the NSF circulates petitions supporting protection of vitamin supplementation, these are routinely ignored by US Codex delegates and regular citizens have no actual power to generate changes.
Citizens for the Environment Tax status unknown; there's no listing for this group in a database of nonprofit organizations.	Sounds like a "green" organization. This could only mean clean air, clean water, clean land, and using resources in a sustainable manner.	Front group created in 1990 by Citizens for a Sound Economy. Both groups were funded by the Koch family, which made billions in the oil industry. CFE says that acid rain, natural resource depletion, and shrinking landfill space are "myths." CFE has lobbied against the Clean Air Act and tried to remove the few restrictions still existing against corporations so they can continue to pollute.
Citizens for Affordable Energy Group's purpose, says its website, is "To educate citizens and government officials about pragmatic, non-partisan affordable energy solutions, environmental protection, energy alternatives, efficiency, infrastructure, public policy, competitiveness, social cohesion, and quality of life." ³²	One might be inclined to believe that "affordable" could mean solar or wind power, even though the text from the organization's website (see left) is vague and doesn't give you the organizations true position on any issue.	Front group. The leading member is John Hofmeister, formerly Group Human Resource Director of the Shell Group (of Shell Oil Company; he retired in 2008). Currently, Hofmeister is Director at Lufkin Industries, Inc. and the Senior Independent Director of Hunting PLC, both of which manufacture products for oil and gas extraction. Hofmeister is also listed as a director at CAMAC Energy Inc., a US-based oil and gas corporation that is operating in Nigeria (among other places).

When Public Relations Becomes Law

Twisting the meanings of words, also known as *propaganda*, is a common practice. Propaganda inhibits unrest by instilling mental confusion. Being in a state of continual confusion and uncertainty helps keep people anesthetized and complacent. The mass media reinforces this state by airing slanted “news” reports, which try to convince people that a situation is better than what their own senses and experiences keep telling them.

Major media routinely promotes dominator tactics. It makes corporate interests sound beneficial and even desirable by using euphemisms such as *globalization* and *free trade*. Despite these deceptions, the public is discovering the truth: Corporations and their political and financial allies are the sole beneficiaries of this “globalization” that negates a nation’s own laws. Moreover, “free” enterprise is not free to citizens, but provides corporations with tax breaks and other perks.

In the West, the meaning of power has been twisted into its opposite. True power is mastery of self. However, it’s usually defined not as *self-empowerment*, but as *dominance over others*. Riane Eisler stated during an interview:

Children learn early on that it’s very dangerous to challenge authority no matter how brutal or unjust. . . . [To] move to what I call a partnership system, . . . we have to think outside the conventional categories of ancient versus modern, or religious versus secular, or right versus left, or industrial versus pre or post industrial. . . . [We must create] relations that are not based on these top down rankings that are ultimately backed up by force, but . . . relations of mutual respect, mutual benefit, [and] mutual accountability.³⁹

Through their attitudes, behavior and laws, dominant paradigm people exhibit disdain for the dignity, safety, and humanity of others. Understandably, dominators suppress challenges to their way of life. One might think that people would question or challenge the power elite if their air, water, and food were contaminated; if affordable, effective health care of their choice was restricted; if they had limited access to resources, including factual information; and if they had to struggle every day for basic necessities. However, dominator societies are carefully structured to ensure that the average citizen doesn’t object (too much) and accepts what s/he is told. Dominators also reinforce the concept that we don’t have control over our own lives, that we *shouldn’t* have control over our own lives, and that if we *do* have control, we should relinquish it. This indoctrination is repeatedly ingrained so that people become emotionally more vulnerable to so-called authorities—who do, in fact, take over their lives. These

Tobacco Industry Schemes

In today’s depersonalized, mechanized world, people are becoming alienated from their own bodies, mistrusting of their experiences, and strangers to common sense. For example, everyone now knows that smoking is harmful. But it took decades for common sense—despite the often immediate ill effects of inhaling smoke into one’s lungs—to overcome the tobacco industry’s public relations propaganda (lies) that smoking is a fine and even healthy practice. It’s worth reviewing some of the tobacco industry’s tactics because these same ploys are being used today by multinational corporations to convince the public that what they’re doing isn’t dangerous or unethical.

- ◆ Question the science.
- ◆ Manufacture doubt.
- ◆ Create controversy.
- ◆ Delay regulations.
- ◆ Shift the blame.
- ◆ Pontificate on the public’s right to choose.
- ◆ Secure third party allies.
- ◆ Find (or bribe) a friendly scientist.
- ◆ Bribe a government official.

authorities (dominator minions) may include teachers, lawyers, politicians, religious leaders, biotech scientists, television announcers, and doctors.

Laws that restrict people’s access to real resources ensure that they perpetually remain psychologically and materially dependent, just like children. Such laws are made under the guise of protecting the populace from what’s dangerous. To this end, dominators use the classic strategy of reversals: what’s dangerous is heavily promoted and available (for example, aspartame), and what’s healthful is vilified and prohibited (for example, raw milk). Examining what people are legally permitted to access reveals the intentions of the lawmakers.

To prevent people from rebelling against those who try to dominate them, the power elite uses another classic tool: convince everyone that the true oppressors are not the dominators, but others. These “others” may include people who have a different skin color; who are of the opposite sex, particularly women; who are aging or physically challenged; who love others of the same sex; or those who don’t have enough to eat or a decent place to live. The ways to separate ourselves from others seem limitless, even though each of us (though unique) has the same basic needs.

Those whose choices are heavily restricted often fight each other for the crumbs that are left, rather than realize where the trouble actually started. This tactic is known as

The Dominator Mentality

To those accustomed to treating others with kindness, one of the most difficult concepts to grasp is how some people can live their lives without compassion, even behaving with deliberate cruelty toward others. It's as though one were suddenly whisked from one's generous and caring homeworld onto a foreign planet of strange beings. It's difficult to deal with indifference and callousness when these traits feel so alien to one's own nature. However, for those navigating dominator territory, it's imperative to understand how the dominator mentality operates.

Dominator paradigm adherents might feel beautiful or talented, important or special or worthy—but not because they feel intrinsically good and alive within their own skin. Their feelings of self-worth stem from how much more wealth, prestige, and social status they have compared to others. Instead of connecting to qualities generated from the inside, they rely on qualities dependent on the outside. Instead of connection, they embrace a façade. And instead of self-mastery, they prefer the thrill of controlling the lives of others. Because they depend on external resources (land, animals, plants, minerals, things, and other people) to make them feel whole, dominators must constantly replenish their supply. However, depending on something external for one's value and sense of self creates a never-ending black hole of "not enough." This is why it can be a lengthy and difficult process to change the dominant paradigm.

No one who feels connected to self (and thus to the universe, creation, Source) would dream of harming another. People who mistreat others are separated from their own minds, bodies, and spirits. By treating others as expendable commodities, dominators turn themselves into commodities. Therefore, mistreating others is, quite literally, mistreating oneself, although the dominator mentality does not recognize this.

As the dominator mentality becomes entrenched in the psyche, dominators condemn in others the traits they're unable to accept in themselves. Psychologists call this disowning of one's "shadow" side and assigning it to others, *projection*. Judging and blaming others generates a false sense of self-esteem. It also poisons all relationships, even relationships with other dominators. Someone who condemns others is actually very lonely because condemnation separates us from others and from ourselves. Reflecting and reinforcing this domination-separation paradigm, the world becomes polarized into:

Us / Them
Male / Female
Superior / Inferior
Observer / Observed
Conqueror / Conquered
Objective / Subjective
Powerful / Powerless
Scientific / Creative
Active / Passive
Strong / Weak
Win / Lose

The hierarchical mindset of "Us vs. Them," "Superior / Inferior," etc., does more than keep the world polarized and its inhabitants isolated. This mindset also encourages the mistreatment of anyone who we perceive is not like us. *Someone who's different isn't worth very much*, the rationalization goes, *so it doesn't matter how badly we treat them*. We pay a steep price for living under a dominator paradigm. Besides relationships, our work, play, politics, child rearing, science, religion, art, and healing modalities all reflect—and perpetuate further—this alienation. The antagonism toward others that's encouraged by alienation eventually escalates into aggressive, destructive, and violent acts: vandalism, theft, sexual abuse, murder, war.

Because alienation is encouraged, anyone at any time can become a dominator. However, a victimizer cannot exist without a victim. People who reinforce their role as victims allow others to victimize them, thus perpetuating the dominator mindset. In such a culture, tolerance can be abused. Tolerance is essential for an egalitarian society, but this doesn't mean that we should capitulate to victimizers' demands or fail to erect strong personal boundaries. Understanding victimizers doesn't mean condoning or allowing their behavior.

Dominators often pretend to be advocates for those whom they dominate. They may also claim that *they* are the ones being victimized. This helps them hide and avoid being held accountable for their acts.

The dominator mindset may be highly visible, but it's not the only paradigm. Under "Win/Win," everyone contributes the best that they can, and respects the person and property of others.

divide and conquer. Throughout history, divide and conquer has proven to be an effective way to further the goal of the dominator paradigm. The dominator credo says: “If they don’t have enough to live comfortably, convince them that others in a similar position are responsible. Make them so mistrustful and fearful of each other that they’ll be too busy fighting among themselves to come after us. If they do have enough to live comfortably, convince them that they’re worthless unless they have more. Then they’ll be too busy seeking status and more possessions to bother with us.”

People all over the world accept the labels that the dominator paradigm assigns. It’s not uncommon for one group of people to feel indifference, mistrust, or hatred toward other groups. Also, people who struggle daily may understandably envy or hate those whom they believe don’t have to struggle. But negative emotions poison us and prevent healing on all levels. We can be so busy pointing accusing fingers at our neighbors that we forget our capacity to be considerate, loving beings.

Although the elite’s access to material resources and status does help make their lives easier, the dominator paradigm is destructive to them as well as to everyone and everything else they try to control (see Insert, “The Dominator Mentality”).

Privacy in This Electronic Age

We have become dependent on—and outright addicted to—technology in ways we could never have foreseen. Chapter 1 (pages 11–16) discussed the effects of this on our health. Also affecting our health (though less directly) is our vulnerability to the spyware that is increasingly being embedded in electronic items we use every day.

Being online makes us very vulnerable to invasion. If you use Google, the most well known search engine, you’re tracked whenever you make online purchases. This is why many articles you access on the web are accompanied by ads for items you have bought or viewed. Google gives information on all its users to the US government—which isn’t surprising, considering that circa 2003, Google accepted two million dollars from the National Security Agency (NSA), well known for specializing in surveillance.⁴⁰ In 2017 Google Chrome, the widely used web browser, was given the ability to scan *all* the files on any computer whenever there were mandatory updates. Those files can be accessed by the government or police.

You are also vulnerable if the Windows 10 operating system from Microsoft is installed on your computer. This system has built-in spyware that tracks every Internet site you visit by analyzing and recording all of your keystrokes

and clicks of the mouse. Microsoft then sells this data to third parties, which earns the company more money than it makes from its software sales. (That is why Microsoft offered customers free upgrades to Windows 10, and advertised so relentlessly for it.) In addition, Windows 10 allows the installation of third-party software. Customers must click the “I approve” box during installation in order to even use the operating system. The third party programs that are installed could be games, but they could be spyware, too; and Microsoft doesn’t pre-screen any of these programs. People who want to remove the spyware require help from an experienced computer technician. Future versions will undoubtedly have these features too.

The term “conspiracy theory” was created in the 20th century to debunk alternative views that threatened establishment lies.

—J.D. Heyes
Natural News, March 28, 2017

Our fondness for new and fancy gadgets (including, of course, our “smart” phones) has brought our lack of privacy to a new level. Consider Alexa, a wireless interactive virtual assistant whose software is housed in a small cylinder that rests on a table or other surface. Created by Amazon, Alexa is promoted as helping in countless ways—from choosing your radio stations

and turning your lights on and off, to making phone calls and telling you the balance in your bank account. Not only is Alexa voice-activated, but it records as well as listens. Alexa can malfunction, and it often does. It can be hacked. And every single interaction consumers have with their fascinating and sometimes amusing virtual assistant is fair game for any government agency that wants to hear or use that data. However, as the Electronic Privacy Information Center wrote in July 2015, “Americans do not expect that the devices in their homes will persistently record everything they say. It is unreasonable to expect consumers to monitor their every word in front of their home electronics. It is also genuinely creepy.”⁴¹ We have lost the right to choose what we share.

Televisions as well as phones are now “smart.” People watching commercial TV are bombarded by products if they own an Alexa. When a commercial is aired, an ultrasonic signal from the TV speakers activates Alexa and tells it to open a browser on the television screen so consumers can learn more about the product.

Google, when installed on Android “smart” phones, behaves in ways similar to Alexa. Phone owners are told that its recording software is activated only when they say “okay, Google” (or a similar directive). However, simply saying “okay” during normal conversation can also activate the phone to record. Plus, the microphone can switch on at any time. The feature can be turned off, but only temporarily; the “off” setting must be renewed regularly.

The privacy of children is also at risk. In 2015, the Mattel toy company released a high-tech Barbie doll

We have the possibility . . . to create a genuine global community which is different from a self-congratulatory globalism that masks economic inequality. This new way of being is sensitive to human suffering and oppression everywhere. It is committed to a politics of healing. . . . In this transformation of consciousness we have a unique opportunity to find the peace for which . . . so many . . . have longed.

—John E. Mack, MD
founder, Center for Psychology and Social Change
(in *Centerpiece*, Autumn 2001)

equipped with a recorder and microphone. Using WiFi, the activated doll records a child's conversations, transmits them to a control center for processing, and with the help of speech-recognition software, replies, using one of 8,000 pre-programmed lines. It's disturbing enough that children are being taught that this constitutes actual and satisfactory relating to a human being. To make things worse, in order to implement this training in artificial relationships, sensitive personal information is being stored with no guarantee that it can't (or won't) be used for unscrupulous purposes later. A director of a cybersecurity lab was quoted as saying that Mattel is "collecting data from kids—hackers [could be] getting access to private info."⁴² In parts of Europe, these dolls are seen as a security threat and are banned, but recordable Barbie is heavily promoted in the US.

Power companies that supply us with energy also invade. Their "smart" meters digitally read how much power the consumer uses (instead of an employee actually traveling to the building and visually taking a reading). However, smart meters transmit Gigahertz signals that interfere with neurological, hormonal, and other biological functions. Power companies install these meters even if consumers object. The meters invade in another way too: power companies are legally allowed to remotely turn off your power if the company *believes* that you're using too much electricity—even if you have paid your bill!

Our involvement with "smart" technology is not only acclimating us to allow anyone access to our private lives—the dominator strategy of reversals has also given us the opposite problem, *lack* of access when we most need it. For example, one would expect an Internet search engine to be impartial. But the most widely known and used search engine, Google, is heavily biased. Independent websites that contradict the opinions of Google's corporate advertisers are listed last, or not at all. This reduces our access to many types of information that the mainstream doesn't like—whether about politics, or nutrition and healing. Google owns the website YouTube, so films about holistic health (including the dangers of vaccines) keep being removed. By March 2018, Google had terminated the accounts of

Mike Adams (of Natural News) and others who discussed political repression and holistic alternatives to drugs. Not surprisingly, Google is partnered with WebMD.

The web-based social media network Facebook has become a surveillance company that monitors and censors information on the Internet. The site deletes posts and closes the accounts of anyone with differing political and social beliefs—in the US, United Kingdom, Vietnam, all over the world. Even governments are trying to censor and intimidate. US citizens who request *public* records are now being sued by their own government!⁴³

Even voting—which has always been upheld as a right, a duty, and *private*—is no longer safe, with the disuse of mechanical voting booths and paper ballots. In 2018, the largest manufacturer of digital voting machines, Election Systems and Software, admitted that its equipment was deliberately installed with remote-access software, which allows it to be hacked from anywhere in the world so votes can be changed. In many locales, the power elite have created laws that these digital machines *must* be used.

The final battleground is in our own bodies (below).

The Battle to Reclaim Our Bodies

The United States federal government passed a law requiring all public and private health care providers to convert to electronic health records (EHRs) by January 1, 2014, if they wanted to keep their existing reimbursements for Medicaid and Medicare (programs for financially needy and older people, respectively). Today, the use of EHRs has spread worldwide. As a result, our health records are online for anyone to access (or hack).

Even the drugs we take are becoming electronic. In November 2017, *The New York Times* described the technology in "First Digital Pill Approved to Worries About Biomedical 'Big Brother.'"⁴⁴ A copper, magnesium, and silicon sensor in the digital pill generates an electrical signal when the pill contacts stomach fluid. After a few minutes, the signal is detected by a patch that's worn on the rib cage, which via Bluetooth sends the date and time of pill ingestion to a cell phone app. Finally the information is transmitted to a database, accessible to the pill taker's doctor and four others chosen by the person. Proponents praise the benefits: pill takers with poor memories are helped and money is saved.

The first volunteers for this digital monitoring were people who were diagnosed with schizophrenia or depression and took the antipsychotic drug Abilify®. Investigative journalist Jon Rappoport, in his bluntly titled article, "Your Pill Spies On You," wrote, "The Surveillance State has a new eyeball, and it's in the patient's mouth, throat, and stomach. . . . The overriding principle here is:

what starts out as a voluntary program eventually becomes mandatory, for ‘the good of all.’ The voluntary phase is just the warm-up, to secure general acceptance.”⁴⁵ As more people accept technology that monitors what we buy, tracks where we are, and records what we say, pharmaceuticals that reveal when we swallow seem normal.

What about microchips implanted in the body? The tiny metal and glass electronic chips, when scanned, reveal medical records and other data on a networked screen. Humans have been microchipping their pets for three decades (and seeing cancer rates rise, either at the site of the injected chip or in an area of the animal’s body to which the chip had migrated). Now humans are being microchipped. A Cincinnati, Ohio surveillance company called CityWatcher was the first to microchip its employees in 2006. On December 10, 2017, the *Chicago Tribune* celebrated that “Wisconsin company holds ‘chip party’ to microchip workers.”⁴⁶ Is the convenience of opening doors, buying snacks, or logging onto computers with a wave of the hand, worth what we are giving up?

Beyond Politics

We can try to dismantle the dominator paradigm with aggressive confrontation. This can lead to physical injury, fines, or incarceration for those confronting the dominators and their representatives. Or we can choose less aggressive methods (political lobbying, letter writing, and education) that present an alternative point of view to the dominant paradigm and can generate significant positive change. (See Appendix A for grassroots organizations.) However, not everyone wants to become involved in these ways. Most people are overwhelmed by the (deliberately) cumbersome structure of our corrupt political systems. And many simply don’t have the energy or mindset to become involved in politics, due to financial stresses, enforced long work hours, or serious illness.

Nevertheless, we can still positively affect and even transform our environment—simply by changing ourselves. I’m not talking about wishing hard, or so-called positive thinking that ignores the unpleasant aspects of existence to such an extent that it traps people in a haze of unproductive denial. I’m referring to the profound changes that occur, and whose effects radiate out into the cosmos, when we heal ourselves in a deep way.

Many ancient spiritual traditions teach that the most intense and lasting changes begin with the individual. As we will see, this principle is founded on solid science. So, alongside the transformation that’s occurring on social and political levels, we can do powerful inner work without ever leaving our beds. The transpersonal or spiritual level of change is the topic of the next, and final, section.

THE TRANSCENDENT

A Paradigm of Cooperation

The dominant paradigm in America—indeed, most of the Western world—perpetuates a mechanistic view of life. This view negates the complex interrelationships of all living systems, and instead (dis)regards humans as merely a bunch of parts that should perform like a well-maintained machine. If something doesn’t work, we repair or replace the damaged part, rather than try to find the underlying cause of the malfunction.

Such a paradigm not only makes us mechanics, but it gives us what some researchers rightly call *junk science*. Wilhelm Reich, a remarkable and underappreciated 20th century psychiatrist and natural scientist, remarked that with an inferior scientific approach,

living objects are killed in order to study life in the dead organism, a procedure that is bound to result in a mechanical view of life. . . . The individual living object, or even a detail of this object, should not be studied as an isolated phenomenon. The basic dynamic principle of life governs all life; i.e., the organism as a whole and every individual part of the organism. If scientific research is to be truly productive, it should be continuously motivated and guided by the need to view the whole without losing sight of the detail. Mechanical concepts of life must of necessity be methodologically defective.⁴⁷

When using a mechanistic approach, the very data we work with is flawed because so much has been omitted. Thus, we miss a great deal and draw inaccurate conclusions. The inability to perceive holism in our universe reminds me of an analogy once cited by quantum physicist Fritjof Capra. You’re driving a car when suddenly the oil light indicator on the dashboard goes on. You stop the car. But rather than checking the oil, you rip out the oil light, get back into the car, and resume driving. Another way to interpret this vignette is: If you don’t like what you’re being told, kill the messenger. The problem is, this won’t fix the problem. In fact, failing to address the problem will create even more headaches later.

The tendency to filter out certain aspects of the truth is common. “We speak of becoming conscious,” writes Walene James. “To become conscious we must become aware of our viewing lenses and the assumptions that have shaped and colored them. We can’t really become aware of our assumptions until we expose ourselves to realities based on different assumptions.”⁴⁸

Leaving the Hierarchy: from “Patient” to “Client”

Words are powerful. Every scientist knows the necessary precision of the correctly chosen word. Advertisers and politicians manipulate through emotionally charged terms. And poets deliberately create or destroy with carefully placed lines. The word “patient” is potent. It belongs to the allopathic medical model that denotes anyone seeking healing as subordinate to an expert (physician, psychiatrist, naturopath, chiropractor, or some other provider) who’s administering the service. It can be demeaning for a “patient” to call a practitioner “Dr.” if the doctor calls the client by their first name—especially if the practitioner is considerably younger than the person seeking help. This hierarchy often intimidates clients to such a degree that they become discouraged from being active in their own healing process.

Holistic practitioners who use the word “patient” have, to some extent, adopted the hierarchical allopathic medical model. (Did they adopt this paradigm because they want to be accepted and professionally validated by the dominant medical community?) However, by embracing this divisive terminology, holistic practitioners incorporate some of the allopathic mindset. This conflicts with what holistic and natural healing are all about. In a true holistic model, providers of any physical, mental, emotional or spiritual healing art would be wise to discard this outdated hierarchical model and use “client” instead of “patient.” “Client” signifies a customer for whom a service is being provided. It indicates respect, *as an equal*, for those seeking help.

That said, there may be times when only “patient” will suffice—not because of the practitioner’s preference, but because of the client’s. Sometimes people really want to be “patients.” They feel more secure with hierarchical roles because they lack confidence in their ability to learn, to make informed choices, and to heal themselves. They believe that if *they* cannot fix what’s wrong, then as long as they call themselves “patients,” *the doctor* will be able to cure them—because these roles, by definition, make practitioners more knowledgeable and powerful than they (the clients) are. For such people, the wellness provider should try to present a “doctorly” manner because this is exactly what the “patient” needs.

Yet another possibility is this: Sometimes the client simply need a little assistance to actualize his or her potential. It’s amazing what inner resources of self-healing can develop when the practitioner, in the role of authoritative “doctor,” offers some gentle encouragement and information on self-care—thus helping the “patient” to become a confident “client.”

If it were only a matter of “exposing” ourselves to different assumptions, we would have replaced the dominant paradigm long ago with a holistic one. But think of all the obstacles that we allow to hold us back: fear of the unknown, fear of not knowing what to do, fear of not knowing who to trust. Fear of being wrong, ridiculed, abandoned, alone, unloved. It’s important to acknowledge our fears. But what do we do once they’re acknowledged?

Fear can help us or it can hold us back. If I want to walk across a crowded intersection against the traffic light, the justified fear of being hit by a car helps me reconsider my course. But if I’m afraid to leave my house because of the unlikely chance that a car might jump the curb and injure me, this fear is no longer helpful and becomes crippling. What will I allow to guide me? Irrational emotions? Or a lucid, reasoning mind, along with a compassionate heart?

So far, I have discussed ways in which people forget to use their mental faculties and are driven by their fears. Now I will explore how to release or transmute those fears. In order to do this, it will help to envision the world in a way to which some of us may not be accustomed. Let’s take a look at some remarkable discoveries.

Research Outside the Box

In the last century, some extraordinary scientific research has emerged that shows how intimately connected we are to each other. This understanding is not new. What is new is the use of sophisticated experiments to confirm these relationships. The studies that follow can help us improve our ability to heal ourselves and others in some unique and very deep ways.

The Interconnection of Quantum Particles

The oneness of the universe is the central component of all mystical experiences. This has been taught in many ancient cultures, from the people of India to the Chinese to Native peoples all over the world. The interconnection of all life is also one of the most important revelations of modern physics.

This revelation, from a modern physics standpoint, was illustrated by an experiment conducted in 1935 by physicists Albert Einstein, Nathan Rosen and Boris Podolsky. They mathematically computed that if you examined two quantum particles, a change in the spin of the first particle would simultaneously affect the other, even if they were separated. It didn’t matter where these particles were. They could be placed next to each other or millions of miles apart. But there was one detail that the scientists could not resolve. If particle #2 could sense particle #1 and make an instantaneous change based on what the first one was doing, this meant that the signal

between them would have to travel faster than the speed of light. But nothing in the universe travels faster than the speed of light! Or so they thought.

Einstein felt that he simply hadn't discovered the mysterious ingredient that allows this instantaneous communication to take place. Even if he had, in his view this experiment had very little to do with the so-called real world. As it turns out, even the great Einstein could be wrong.

The energy instantaneously connecting two or more particles remained a mystery until the late John S. Bell devised a very complex mathematical proof in 1964 that became known as Bell's Theorem. In quantum physics, if a premise can be mathematically proven, it means that the answer is more than simply a hypothesis or speculation. *It is the truth because mathematics represents reality.* Thus, scientists who understood the importance of the math were very excited about this new knowledge. Bell's theorem essentially proved that despite the inability of quantum theory to predict instant connections between particles, the connections are still there, and they are *non-local*.

"Nonlocality," explains Lynne McTaggart in *The Field*, "refers to the ability of a quantum entity such as an individual electron to influence another quantum particle instantaneously over any distance despite there being no exchange of force or energy. . . . Quantum particles once in contact retain a connection even when separated, so that the actions of one will always influence the other, no matter how far they get separated."⁴⁹

Bell's Theorem was further confirmed in a 1972 experiment by Berkeley professor John Clauser and his associate Stuart Freedman (and in later experiments by other researchers), using an elaborate system involving photons, calcite crystals, and photo multiplier tubes. Without a doubt, one particle "knew" what the other particle was doing. However, the medium of transmission was not light. The late David Bohm (who had been an associate of Einstein and was one of the most respected theoretical physicists at Birbeck College, University of London) stated that because it's impossible, according to the theory of special relativity, for anything to travel faster than the speed of light, what connected two particles could not be energy on the electromagnetic spectrum. Rather, the bond between the particles appeared to be some kind of *information* that transcended space and time as we know it. This information could also be transmitted via *thought*. Although Bohm hadn't yet been able to

identify that energy, these experiments revealed a new way of viewing the universe. In her review of discoveries in the quantum field, McTaggart writes:

Matter could no longer be considered separate. Actions did not have to have an observable cause over an observable space. . . . Subatomic particles had no meaning in isolation but could only be understood in their relationships. The world, at its most basic, existed as a complex web of interdependent relationships, forever indivisible.⁵⁰

The Human as Hologram

Bohm gifted us with another important insight. All information in the entire universe, he said, is contained in each of its parts, like a hologram. A *hologram* is a three-dimensional photograph that's so complete, any piece we cut from it and illuminate with coherent light provides an image of the *entire* hologram. It might be a different view, but all the information is present. Thus, said Bohm, the entire universe had to be understood as a single, undivided, interconnected whole. Furthermore, human beings, as part of that hologram, innately possess the ability of holographic perception.

In the paragraphs below, McTaggart discusses how individuals actually *create* their hologram, or a holographic experience. Note her reference to scalar waves, and to the so-called Zero Point Field from which matter is seen to emerge. (As the ancient Greek Plato taught, energy precedes matter.)

We must cure the current system, which is so seriously ill that a few dozen aggressive and competitive men have the power to destroy all life on Earth.

—Tadatoshi Akiba
mayor of Hiroshima, Japan:
at a peace demonstration in
New York City's Central Park
May 1, 2005

"Scalar" waves . . . are not electromagnetic and . . . don't have direction or spin. These waves can travel far faster than the speed of light. . . . It is scalar waves that encode the information of space and time into a timeless, spaceless quantum shorthand of interference patterns. This bottom-rung level of the Zero Point Field—the mother of all fields—provides the ultimate holographic blueprint of the world for all time, past and future. It is this that we tap into when we see into the past or future. . . .⁵¹

Quantum physicists also point out that *space and time are constructs that can vary*, depending on who is doing the perceiving.

Pure energy as it exists at the quantum level does not have time or space, but exists as a vast continuum of fluctuating charge. We, in a sense, are time and space. When we bring energy to

conscious awareness through the act of perception, we create separate objects that exist in space through a measured continuum. By creating time and space, we create our own separateness.

This suggests a model not unlike the implicate order of British physicist David Bohm.... [His] model viewed time as part of a larger reality, which could project many sequences or moments into consciousness, not necessarily in a linear order. He argued that as . . . space and time are relative and in effect a single entity (space-time), and if quantum theory stipulates that elements that are separated in space are connected and projections of a higher-dimensional reality, it follows that moments separated in time are also projections of this larger reality.⁵²

The ramifications of tapping into this vast holographic sea—over which time and space have no dominion—with thoughts that are faster than the speed of light, are mind-boggling. The ramifications of actually *existing* in this holographic universe are equally astounding. Anything and everything that anyone has ever thought is transmitted, and may even potentially manifest as matter, “someplace.”

Furthermore, within this holographic model, healing—and the potential to impart it—assume entirely new meanings. Following are some unorthodox ways to heal.

The Power of Prayer

One powerful way of transmitting healing beyond time and space is *prayer*. I regard prayer as heartfelt, focused intention of well-being, so this bypasses any specific religious beliefs. Medical doctor Larry Dossey has written extensively about scientific studies that show the curative power of prayer. I find these studies fascinating because they prove what can be achieved by intention—which, like everything else in the universe, is comprised of palpable energy.

Dossey cites studies in which groups of volunteers were given the names of people who were ill and lived long distances away. Then the volunteers were instructed to pray for their healing. A control group consisted of people who were ill, but were not sent any prayers. Those to whom prayers were sent recovered much more rapidly than those to whom prayers were not sent.

One experiment called the MANTRA study—short for “Monitor and Actualization of Noetic TRainings”—was conducted at Duke University, headed by cardiologist Dr. Mitchell Krucoff and nurse practitioner Susan Craven. Heart condition clients who agreed to be part of the study did not know whether or not they received prayer. Their first names were divided randomly into two groups, and were then emailed to Buddhists in Nepal, Jews in Israel, Hindus in India, Catholic nuns, Protestants in North Carolina in the US, and to the spiritual organization

Unity Village in Missouri, also in the US. At the end of the test, subjects receiving prayer had 50% to 100% fewer unwanted (“side”) effects from medications than subjects who did not receive prayer.⁵³ Interestingly, Dossey discovered that when prayer groups are told what kind of illness the person has, the prayers aren’t as effective as those sent by a prayer group that does *not* know the person’s illness. Perhaps the human mind is currently so limited that any outcome we try to predict or control is limited, too.

The Unified Field is built upon dimensionalized sets of scalar standing-wave points, wave strata formed of units of consciousness [whose] . . . energetic relationship . . . form the basis . . . through which the Hologram of Manifestation can be perceived.

—A’shayana Deane
The Kathara Bio-Spiritual
Healing System™, 1999

The Power of Long Distance Healing

According to the recently deceased psychiatrist Elizabeth Targ (who had directed the Complementary Medicine Research Institute, affiliated with the University of California School of Medicine), in the last 40 years over two-thirds of more than 150 formal, controlled studies showed statistically significant positive effects from distance healing. Along with three colleagues, Targ reported the results of two experiments in a 1998 article. Experienced healers from various traditions sent energy to 10 people diagnosed with AIDS (in the first experiment) and 20 people diagnosed with AIDS (in the second experiment) over a 10 week period for one hour a day, six days a week. The average age of the healers was 47. The religious backgrounds of the healers included Buddhism, Christianity, and Judaism. Among the professionals were medical doctors, nurses, psychologists, a Baptist minister, a qigong master, and a Native American shaman. “A majority of healers,” Targ wrote, “reported working with chakra imagery for healings; other frequently reported modalities included prayer, visualization, and work with crystals.” For every person who was treated, there was an untreated control person diagnosed with AIDS in a similar physical condition as the treated person.

The healers worked on a rotating schedule so that each week, each patient was treated by a new healer. Thus, by the end of the study, each patient had received “healing effort” from a total of ten different healers. Each week, a head and shoulders photograph of one of the treatment patients was sent via overnight mail to a healer who was then instructed to “hold the intention for the health and well-being of the patient” for one hour a day during the time the patient was assigned to them. The healers were given the first name of the patient, the patient’s [blood] CD4 count, and two or three sentences describing active elements of their illness. Healing techniques were quite varied.⁵⁴

Targ also described the researchers’ efforts to ensure that each subject’s expectation, guess, or belief that she or he was among those being healed, played no part in the outcome. At the end of six months, the data collectors saw clearly that the participants who had received treatment:

had acquired significantly fewer new AIDS-defining diseases than people in the control group, their overall illness severity scores were significantly lower, they had significantly fewer hospitalizations, and those hospitalizations were significantly shorter. In addition, treatment patients showed significant improvement on psychological status, including decreased depression, decreased anxiety, decreased anger, and increased vigor, compared to controls.⁵⁵

The Power of Group Intention

If just a few individuals can affect others over distances, imagine the power of a *group*. In Chapter 3, I cited experiments showing that when practiced regularly, the Transcendental Meditation® technique has pronounced positive effects on the body, including decreased blood pressure, decreased lactase levels in the blood, and overall better health. I also mentioned increased coherence in brain waves. What I’ll cite now are studies showing how *other people’s behavior changed when enough meditators were living in the specific area that was being examined*. Although I’m focusing on one form of group intention (meditation), and on only one form of meditation, the power of focused group intention can manifest in many forms and arenas. The Transcendental Meditation® technique is convenient and fun to cite because it has been so heavily investigated.

Combined, the researchers and professors who conducted the following studies have degrees in biophysics, sociology, government administration, and physics. They

Plants Recognize Their Siblings

Researchers at McMaster University in Hamilton, Canada, have found that plants get fiercely competitive when they’re forced to share their pot with strangers of the same species, but they’re accommodating when potted with their siblings.

“The ability to [recognize] and favour kin is common in animals, but this is the first time it has been shown in plants,” said Susan Dudley, associate professor of biology at McMaster University. “When plants share their pots, they get competitive and start growing more roots, which allows them to grab water and mineral nutrients before their neighbours get them. It appears, though, that they only do this when sharing a pot with unrelated plants. When they share a pot with family, they don’t increase their root growth. . . . Plants from the same mother may be more compatible with each other than with plants of the same species that had different mothers.”

—Nexus, September–October 2007

published the results in well-known scientific, legal, and medical journals. The following are summaries of just a few studies, from earlier ones to more recent:

- ◆ A 1981 study, published in the *Journal of Criminal Justice*, focused on cities with populations larger than 10,000. “The years 1967 to 1972 served as the preintervention period, while 1972–77 formed the postintervention period [during which people were taught the Transcendental Meditation® technique, making the number of meditators in the experimental meditating cities almost six times higher than the number of meditators in the control cities]. The primary variable of interest was the change in the crime rate over these two periods. Crime rate figures were calculated as the number of FBI Crime Index crimes per 1,000 population.” After comparing the experimental meditating cities to the control cities—which had been matched for population, average crime rate, and other factors—the crime rates in the experimental meditating cities were found to be “significantly different. A decrease in crime rate was found in experimental cities. The decrease was evident both immediately after the cities reached the 1-percent level of TM program participation and in the crime rate trend during the subsequent 5 years.”⁵⁶
- ◆ In June and July of 1993, a very interesting experiment, the National Demonstration Project to Reduce Violent Crime and Improve Governmental Effectiveness, was conducted in Washington, DC in the US. This was

an area known for its high rate of violent crime. The research team, headed by physicist and Nobel Prize nominee John Hagelin, arranged for approximately 4,000 advanced practitioners of the Transcendental Meditation® and TM-Sidhi® programs to temporarily inhabit the nation's capital. To ensure scientific accuracy, an independent 27-member Project Review Board—consisting of police department and government personnel, leading university sociologists and criminologists, and civic leaders—first approved the research protocol and then monitored the study.

At the end of the study, with all variables statistically accounted for, results showed that violent crimes (which included rape, robbery, homicide and aggravated assault) decreased by 24%. Statistically, the chances that this could occur were less than two in one billion.⁵⁷ The researchers explained that the *collective consciousness*—a pool of energy, comprised of everyone's combined consciousness—influences individual behavior. As more individuals become stressed, stress in the collective consciousness increases too, negatively affecting individuals (as demonstrated by augmented levels of violence, crime, and other negative social behaviors). However, the inverse is also true. As stress levels of individuals plummet, their combined calmness contributes beneficially to the collective consciousness, which in turn positively influences the behaviors of other individuals. The positive behaviors are characterized by increased levels of coherence and harmony in the brainwave patterns and energy fields of people (and also animals). Coherence is intelligent, Hagelin remarked; and this underlying field of intelligence was none other than the “Unified Field” or “Zero Point” field that quantum physicists have named.

- ◆ A 2005 article, “Alleviating Political Violence through Reducing Collective Tension: Impact Assessment Analyses of the Lebanon War,”⁵⁸ studied the impact of a statistically significant number of meditators, versed in the advanced TM-Sidhi® program, who were stationed in Israel for two months in 1983. Statistics, recorded and analyzed daily, showed that on days that the number of meditators was high, war deaths in neighboring Lebanon dropped by 76%. In Israel, indicators of social stress—including fires, crime,

and traffic accidents—also correlated strongly with changes in the numbers of TM® meditators. (The researchers statistically factored in other possible stressors, such as holidays and weather.) Remarkably, war-related fatalities decreased by 71%, war-related injuries dropped by 68%, and cooperation among antagonists increased by 66%.

These studies have profound applications. A population consisting of just 1% of highly focused people whose brainwave cycles are stable and serene, can calm the attitudes and behavior of those around them whose brainwaves are chaotic. This is like placing a vibrating tuning fork beside another, non-vibrating tuning fork, causing that second tuning fork to reverberate in a manner similar to the first. In physics, this phenomenon is called *entrainment*. In spiritual circles, this is known as being in resonance or in harmony with what is around you.

Freedom is not simply about winning some perceived battle against tyrants who desire to control our lives. Nor is it solely about creating the financial means to do what you want, when you want. Freedom is really about creating the life that wants to spring forth from the depths of your spirit.

—Jeffrey Howard
freedom and privacy advocate, 2001

Healing with the Heart

A different type of explanation as to how and why prayer, long distance healing and group meditation work, has been offered after two decades of experiments by Glen Rein, Rollin McCraty, Mike Atkinson, and other investigators. Using sensitive electronic medical and laboratory equipment such as an ultraviolet absorption spectrophotometer, an electrocardiograph (ECG) to measure heart rhythms, and an electroencephalograph (EEG) to measure brain waves, the researchers studied what effects (if any) one's intentions and emotions have on others.

First, the signature of various emotional states had to be established. “Since the heart produces the strongest electromagnetic field in the body, the basis of CNI [cardioneuroimmunology] is that the heart is the master oscillator,” McCraty et al. wrote.⁵⁹ The word “master” to describe the heart is an appropriate term. The heart's electromagnetic signals—which scientists classify basically as either coherent or incoherent, according to how these signals register on the ECG—are generated throughout the entire body. Hence, the entire heart field is perceived by every cell. Twenty subjects, who were pre-tested and pre-selected for their skill (or ineptness) in accessing and controlling their emotions, were connected to brain and heart wave machines. The machines simultaneously monitored the top of the head, forehead, heart, and base of the spine on the subjects. The researchers found that:

when the heart is radiating coherent frequencies, the rest of the body's subsystems and cells, including the brain, operate within that coherent electromagnetic field. . . . Anger, frustration and worry created higher percentages of *incoherence*, while feelings of love, care or appreciation created higher percentages of *coherence*. . . . Changes in the EEG, as well as the ECG, are also seen over time as a person practices mental and emotional self-management to transform negative emotions into positive ones.⁶⁰

The above findings make sense. After all, as McTaggart remarks, "Consciousness, at its most basic, [is] coherent light."⁶¹

Before I discuss further experiments by Rein and McCraty, I want to explore the nature of water, and the research of one man whose findings were celebrated worldwide, both during his life and after his death.

The Structure of Water

The late Japanese photographer Masaru Emoto inspired people all over the world with his book *The Message from Water*. Emoto took photographs of frozen water crystals that either had organized crystalline shapes or disorganized chaotic shapes, depending on whether they came from a clear mountain spring or a contaminated industrial pipeline. Emoto's even more unusual experiments showed that the shapes of water crystals also depended on the *attitudes* and *emotional states* that the water absorbed.

When we grow plants by saying sweet things to them such as "please grow up healthy" or alternately by saying mean things such as "go on and get withered," . . . the plants show a clear difference in [how well they do]. . . .

People can become joyous and encouraged when they listen to music, all because the water contained in their bodies goes through a change. The vibrations of music and words transmitted through the air affects water more than any other element. The vibrations of music and words affect the water that is contained in plants and food. . . . Good music and kind words must exert a positive effect on water.

Is there any way to demonstrate this theory? Pictures of crystals are wonderfully effective as a method to view the effect that music and words exert on water.⁶²

Emoto and his colleagues photographed the water crystals using rigorous scientific procedure. "We selected distilled water as the base water to do our experiments on

because it has a simple crystal structure," Emoto related. First, photos were taken of the plain water crystals. Then the water was melted and subjected to music. Finally it was re-frozen, and photos were again taken. "As a result of trial and error," Emoto explained, the researchers decided to place the distilled water between two speakers and play an entire piece of music at normal volume. Interestingly, a very important part of the experiment involved tapping the bottom of the water bottle before letting it sit overnight. The bottle was tapped again the next day before the water was frozen to make crystals. Through the tapping, "information seemed to be transmitted through the water causing the crystals to activate."⁶³ Notably, homeopathic remedies are made by tapping and shaking.

The music that was played ranged from European classical to a movie soundtrack (*Seven Years in Tibet*) to rock and roll. What excited Emoto was how the crystal patterns seemed to visually reflect the musical themes. The works of Beethoven, Mozart and Bach formed complete and gorgeous crystals—although some "Bach water" crystals seemed endless, one sprouting from another, much like the composer's repeating and interwoven musical themes. Chopin's "Farewell Song" showed tiny crystals that were distinctly separated. The water crystal embodying a Korean folk song about two lovers who became separated crossing a mountain pass displayed an otherwise perfect hexagon with a chaotic center and a split in one side. A Kawachi folk dance produced a flower-like crystal, apparently confirming Emoto's comment that "for hundreds of years, this music has been cherished and sung by many people and because of this, it may have some healing power."⁶⁴ Recordings of the new age performing artist Enya, as well as Hado (Japanese healing music), likewise produced crystals that were pleasing to the eye.

As you might guess, different music produced very different shapes. A hit song by a popular Japanese group

If the healing facilitator can feel love, reverence, respect and honor for the Divinity within themselves, they will also transmit these qualities . . . to the client. The quality of love brought into the healing facilitation experience will directly affect the success of healing assistance given. Love the self, and know that all beings possess an unalienable worth and value as a living part of the Divine. Begin to cultivate this awareness within your personal life and you will greatly increase your effectiveness as a healing facilitator. Love, honor and respect yourself, your feelings, your dreams and your desires, so you may better love those you wish to serve.

—A'shayana Deane
The Kathara Bio-Spiritual Healing System™, 1999

produced squares, not the usual six-sided structure into which water crystals usually form. “Hit music does not always contribute to the production of well-formed crystals,” Emoto observed. He then described his personal reaction to the water shapes produced by heavy metal music. Heavy metal (an interesting name)—which is more like random noise than music—has correspondingly disharmonious waveforms compared to most other types of music, which have harmonious waveforms. (See Appendix C, “Healing with Electromedicine and Sound Therapies,” for more information.) Not surprisingly, the water crystals from heavy metal music were artistically less beautiful. “This music,” Emoto explained, “is filled with anger and seems to be denouncing the world. Subsequently, this crystal’s basic well-formed hexagonal structure has broken into perfect pieces. The water seems to have reacted negatively to this music. We are not saying that heavy metal music is bad, only that there must have been a problem with the lyrics.”⁶⁵ These results are consistent with other experiments in which cows exposed to classical music behave in a tranquil manner and produce ample milk, whereas cows exposed to synthesized, heavy metal music clearly become agitated and produce less milk.

The last of Emoto’s experiments that I will describe involve words alone, without music. Words have impact because there is *emotion* and *intent* behind the words. “What kind of reaction does water show to words or to the sounds that words make?” Emoto asked. Even the tone of voice can make a difference. “For instance, there is a great difference between angrily yelling ‘You fool!’ and saying ‘You are a fool’ in a gentle way.”⁶⁶ Onto bottles of distilled water, Emoto and his colleagues taped pieces of paper containing various words and phrases. To maintain consistency, the messages were typed by a word processor rather than handwritten. The studies were done more than once, and the results were consistent each time. You probably can guess what happened. “Thank you,” “I love you,” “Love/Appreciation,” “Soul,” “Angel,” and “Beautiful” all produced lovely crystals that were pleasing to the eye. “You fool” (said angrily), “You make me sick; I will kill you,” “Demon,” “Devil,” and “Dirty” produced chaotic, truly ugly shapes. Significantly, “Do it” produced a hollow round interior with irregular edges, while “Let’s do it”—suggesting cooperation and connection rather than domination and hierarchy—produced a crystalline shape.

Emoto also noted the differences between the structures depicting “Thank you” in English and Japanese. The “thank you” crystal in Japanese, he remarked, is eerily similar to that produced by Bach’s Goldberg Variations. “Goldberg Variations was composed by German-born Bach to express his gratitude,” Emoto reflects. “The word ‘Thank you’ in Japanese exists to help us express gratitude. . . . English must have derived differently.”⁶⁷

The theme is crystal clear. *What we think affects us and others profoundly*. Mr. Emoto’s experiments have enormous implications for human (and animal) healing, as our bodies consist of about two-thirds water.

Changing Our DNA

Glen Rein and Rollin McCraty were used to conducting novel experiments. But what they discovered surprised even them. Human volunteers were asked to direct specific feelings and thoughts toward living DNA samples taken from a human placenta. The DNA—whose two strands are normally interwoven—had been exposed to heat to make the strands unwind. “Individuals trained in generating focused feelings of deep love showed high coherence ratios in their ECG frequency spectra, and all were able to intentionally cause a change in the conformation of the DNA,” wrote Rein and McCraty in “Modulation of DNA by Coherent Heart Frequencies.” That “change”

What many people don’t realize is how dynamic the structure of DNA is. The base pairs are always moving and vibrating, electrons are migrating, holes are opening up and closing through the center of the DNA. Nothing stays still for more than a femtosecond here or a millisecond there.

—Jacqueline K. Barton,
professor of chemistry, California
Institute of Technology
quoted in *The New York
Times*, March 2, 2004

in the DNA’s form consisted of nothing less than *the DNA rewinding back into its intact helical structure!* (DNA emits photons, or light. The winding and unwinding of the DNA is measured by how much ultraviolet light, at the wavelength of exactly 260 nanometers, it absorbs.) As might be expected, the subjects with the most coherent emissions had the strongest effect on the DNA, while those individuals “who showed low coherence ratios, although in a calm state of mind, were unable to change the conformation of the DNA.”⁶⁸

In another paper, “Local and Non-Local Effects of Coherent Heart Frequencies on Conformational Changes of DNA,” Rein and McCraty wrote about subjects who were located as much as one-half mile from the DNA, but were still able to rewind the two strands.

The results of this study indicate that the heart’s energy field can directly modulate these basic cell functions [such as the creation of proteins and enzymes], via a direct action on DNA. . . . This

energy transfer is distinctly different from the known electrical and chemical communication from the heart to the brain. . . . The unusual ability of heart energy to carry three different frequency patterns associated with different intentions suggest a non-electromagnetic information carrier [scalar waves]. . . . *Human intentionality produces effects which defy conventional laws of electromagnetism with respect to their independence of space and time. The long distance effects observed here support these observations and indicate that coherent heart energy may be a carrier for such non local effects.* The implications of this research suggest a novel mechanism for interpersonal, heart-felt communication between individuals which involves coherent heart energy. [emphasis added]⁶⁹

Thus we have scientific proof that positive emotions produce coherent heart energy; that coherent heart energy produces coherent brain waves and oscillations in the cells, which beneficially affect the entire system; and that individuals who emit coherent heart frequencies can literally heal on the cellular level.

In another paper, “Effect of Conscious Intention on Human DNA,” Rein explores in greater detail the effects of *specific* intentions. A healer named Leonard Laskow consecutively assumed five different states of consciousness, during which he focused on three Petri dishes containing DNA of tumor cells. “The growth of tumor cells in culture was chosen because it could be monitored quantitatively using state of the art biochemical techniques,” reports Rein, and because it was “highly relevant clinically.” Laskow described being in a state of “transpersonal unconditional love” in all five experiments, which “allowed him to be in resonance with the tumor cells.” The five different mental intentions that were “studied for their biological activity” are as follows:

- ◆ Returning to the natural order and harmony of the cell’s normal rate of growth, i.e. before they were transformed into tumor cells.
- ◆ Circulating the microcosmic orbit [presumably, this means that Laskow was merged with the cells at their atomic level].
- ◆ Letting God’s will flow through his hands, i.e. a transpersonal intention.
- ◆ Unconditional love, i.e. no specific direction to the energy was given.
- ◆ Dematerialization into the light and/or dematerialization into the void.⁷⁰

I sometimes ask people, “Can you be aware of your own presence? Not the thoughts that you’re having, not the emotions that you’re having, but the very presence of your very being?”

You become aware of your own presence by sensing the entire energy field in your body that is alive. And that is the totality of your presence.

—Eckhart Tolle (born 1948),
author of spiritually-oriented books,
including *The Power of Now* and *A New Earth*

Together, Rein and Laskow discovered that a *combination of heart-centered energy (love) and mind-centered energy (focused mental attention) produced the greatest results.* For instance, allowing God’s will to flow through his hands had only half the effectiveness as intending the cells to return to their natural order, the normal rate of growth. Generalized, unconditional love did not stop the growth of the tumor cells. Interestingly, when Laskow was in the “microcosmic orbit” state of consciousness, he could will the cells to either decrease or increase their rate of cancerous growth, by about the same percentage. Even more instructive, Rein points out, intention “produced the same 20% inhibitory effect as did imagery alone.” However,

when the image of few cells in the Petri dish was combined with the intention for the cells to return to their natural order, the inhibitory effect on cell growth was doubled to 40%. *These results therefore suggest that imagery and intent each contributed equally to inhibiting the growth of tumor cells in culture, and that their effect is additive when combined together.* [emphasis added]⁷¹

The data from Rein and his colleagues topple many of the concepts we’ve inherited from the Western medical model. Take the assumption that we’re doomed to repeat the illnesses of our ancestors. Physicians reinforce this mindset because for diagnostic purposes, they partly rely on health history questionnaires that reveal patterns in a family tree. So if, for example, your parents or grandparents had diabetes or heart problems or cancer, it’s assumed that your chances of developing those ailments increase. Now we know, however, that people can alter their presumably fixed genetic expressions with dietary changes, exercise, herbs—and focused intention. “It is well established in the molecular biology community, but unknown [to] most people,” comments Rein, “that the primary structure of DNA does actually change. We are therefore not [necessarily] stuck with the genetic blueprint passed down to us from our parents.”⁷²

Cellular biologist Bruce Lipton agrees. His books explaining how DNA is controlled by signals from outside the cell (including positive and negative thoughts) have been translated into several languages and are popular worldwide. Lipton's research, and the recognition that old beliefs can sabotage us and conflict with our desire for positive change, inspired Rob Williams to develop a therapeutic modality called PSYCH-K®. Through the use of certain body positions, movements, and statements (derived via muscle testing), PSYCH-K® helps both hemispheres of the brain communicate with each other. This allows the subject to access and harmonize both the conscious and subconscious minds and the left and right brain, which working together help us achieve goals pertaining to self-worth, relationship, career, prosperity, health, and more.

Some types of holistic healing do not even use herbs. For these modalities, we use ourselves as the vehicles for healing, along with our own focused intent.

Love As a Resonance

As with all thought and feeling, love itself is a resonance. Like entrained tuning forks, the frequencies of love oscillate, creating positive effects in people, animals, plants, and minerals. And, like a particle in one portion of the galaxy that "knows" what another particle is "doing," the frequencies of love oscillate through space and time.

Love is, of course, a vital component of healing, regardless of whether the facilitator is a medical professional (establishment or holistic), a counselor, an energy worker—or you. A'shayana Deane, who teaches courses in physics and spirituality, writes:

In terms of universal physics, love is an energy reality, a state of vibrational harmonization, or co-resonance of frequency that allows an energetic bridge to build between individuals. It is through this energetic bridge of frequency that one can assist in running healing energies that will facilitate the healing process of others. Without the *sentiment and frequency of genuine love*, one cannot energetically facilitate the healing of another. *Love is the essential ingredient in healing* . . . it allows the opening of facilitator and client's bio-energetic fields to the universal frequencies of the interdimensional [scalar wave] spectrum. Cultivating the ability to embrace and hold the frequencies of Universal or Omni-Love is the responsibility of any true healing facilitator. The emotionally experienced reality of the *frequency*

of love takes many forms. In healing facilitation it is important to assess the most appropriate form of love to engage with each individual client.⁷³

Deane discusses three form of love. The first, soft love,

[is] the kind, gentle, nurturing, soothing love often displayed by mothers comforting their infants. Soft Love works well with clients who possess some degree of spiritual maturity and who have cultivated the ability to hold some degree of a love frequency within themselves. . . . [and who can] accept personal responsibility for . . . their actions and their emotional reaction patterns, and who do not attempt to manipulate, drain energies from or place blame on others. . . .

Soft Love is a vulnerable love . . . [requiring] one to show the self as it is, honestly expressing personal feelings tempered with kindness. Soft Love is not *approval seeking* . . . [but] genuine, honest and *self-generated*. . . . It is understood that personal value is implied by the fact of existence and is not determined by the approval or validation of others outside of the self and the personal relationship to the Divine.⁷⁴

Tough love is very different from soft love.

Certain clients who come to a facilitator for healing assistance bring with them a great need for . . . spiritual maturity. They may demonstrate demanding, arrogant or pushy attitudes and refuse to accept responsibility for their personal actions and resulting consequences. . . . Because they are *wounded within*, they have not yet developed the self-control or maturity necessary to treat themselves or others with kindness, respect or love.

Individuals who display unreasonable behaviors or attitudes pose quite a challenge to the love-based healing facilitator. [Facilitators who use] Soft Love . . . will often find themselves as a scapegoat for the individual's personal problems, may have their energies and time excessively *drained* by such clients, and might possibly be subjected to outright verbal or physical *abuse*. Clients exhibiting such personality traits are struggling within themselves to *gain control* over the various *conflicting portions* of their personal energies, and they tend to objectify this internal conflict . . . in the form of *power struggle* with others.

Personalities trapped within cycles of subconscious self or other-abusive attitude patterns need *love* more than anyone, but most

often their behaviors push others away. . . . Often such personality traits effectively keep the individual from seeing themselves and the inner pain and conflict from which they attempt to hide. To facilitate healing in such individuals without succumbing to their manipulation, aggression or abuse requires that the facilitator adopt a posture of Tough Love. In Tough Love the facilitator clearly establishes *personal boundaries* . . . as to what treatment they will and will not accept. If the client crosses those boundaries, the facilitator *assertively addresses the issue* with the client, requests that the offensive behavior cease, and provides *clear consequences* as to what will occur if the offense continues. . . . The facilitator recognizes that they are only assisting the client to continue with the self-destructive patterns by condoning or allowing offensive behavior, and chooses to *love the client enough to confront the pattern* so that it may begin to release. In *lovingly, calmly, but firmly confronting* poor behavior, and *setting clear boundaries and consequences*, the facilitator assists such clients to temporarily find a new pattern of action because the old one does not work. . . . The Tough Love approach frequently requires facilitators to demonstrate that they hold their own power, even in the face of client disapproval.⁷⁵

What Deane calls omni-love appears to correspond to what many meditators refer to as the Unified Field, and quantum physicists call the Zero Point field.

a state of full frequency resonance with *everything existing* in the many universes. . . . It is a *transcendent love* that is attached to no thing but is *at one with all things*. . . . The self is known as an *extension of God*, or the *Divine Source*. . . . All things and beings are known as *simultaneous expressions* of the *one-self* that is God-Source. From this state of transcendence in love, all activity is understood to exist within the reality of *love*, and all conflict and strife are viewed as the *One-Self progressively expanding the ability of its expressions to carry the frequencies of energy that constitute One-Love*, a state of *total vibrational frequency co-resonance with the cosmos*. . . .

Omni-Love is soft, tough, and enduring, honoring Self, Other, and the Divine

simultaneously. . . . Strive to bring Omni-Love into your life, and [into your] personal and client healing facilitation. . . . Omni-Love is the *natural structure* of reality. Awareness of Omni-Love is cultivated through *intention* and appropriate use of *personal free will choice* in congruence with the *natural laws* of the *Unified Field Physics of Consciousness and Creation*.⁷⁶

As the electronic equipment utilized in experiments by Rein, McCraty and others showed, rigidity, intolerance, fear, hatred and judgment are counterproductive to the healing process. The experiments also showed that, as Deane states:

Your task is not to seek love, but merely to seek and find all the barriers within yourself that you have built against it.

—Jalal ad-Din Rumi
Persian poet and mystic
(1207–1273)

Judgment and love cannot transmit through the human body at the same time. Judgment creates an *energy reality* of separation or *non-resonant frequencies* of energy, whereas love creates the *co-resonance of frequencies* needed for open flow of universal energies for healing facilitation.

If one can realize that *love is the only constant* and that all conditions of judgment change, it is easier to cultivate the innate ability to fully hold the frequency of love. Though assessment of conditions, actions or attitudes is useful and necessary, such assessment can be rendered through “separating the person from the action.” You can judge the effectiveness or value of the *action or idea* without assigning a value judgment to the *person* to which it is attached.⁷⁷

The principles outlined by Deane are sometimes taught to mental health professionals in training (albeit in another form). However, these concepts appear to be mostly imparted to professionals as a method of treatment (if they’re taught at all)—rather than to the general population as a way to become more self-aware. These concepts could be applied to, and used by, anyone.

It cannot be repeated enough: *Love is a frequency*. We can train ourselves to be more loving, appreciative, and respectful of all life. As we become more coherent—*loving*—we will learn to *be* our own rife machines. Instead of plugging an external device into an electrical socket, we will tap into our innate abilities to heal and be healed.

Self-healing always benefits others. In striving to be the very best of who we can be, we can help the world in positive ways, some of which we haven’t even begun to imagine.

The Buddha of Oakland

Dan Stevenson is neither a Buddhist nor a follower of any organized religion. The . . . resident in Oakland's Eastlake neighborhood was simply feeling hopeful in 2009 when he . . . purchased a 2-foot-high stone Buddha and installed it on a median strip in a residential area . . . He hoped that just maybe his small gesture would bring tranquility to a neighborhood marred by crime: dumping, graffiti, drug dealing, prostitution, robberies, aggravated assault and burglaries.

What happened next was nothing short of stunning. Area residents began to leave offerings at the base of the Buddha: flowers, food, candles. A group of Vietnamese women in prayer robes began to gather at the statue to pray.

And the neighborhood changed. People stopped dumping garbage. They stopped vandalizing walls with graffiti. And the drug dealers stopped using that area to deal. The prostitutes went away. . . .

Since 2012, when worshipers began showing up for daily prayers, overall year-to-date crime has dropped by 82 percent. Robbery reports went from 14 to three, aggravated assaults from five to zero, burglaries from eight to four, narcotics from three to none, and prostitution from three to none. . . .

To this day, every morning at 7, worshipers ring a chime, clang a bell and play soft music as they chant morning prayers. The original statue is now part of an elaborate shrine that includes a wooden structure standing 10 feet tall and holding [more] religious statues, portraits, food and fruit offerings surrounded by incense-scented air. . . . On weekends, the worshipers include more than a dozen people: black folks, white folks, all folks . . . Two weeks ago, a group of German tourists visited the shrine. . . .

Soon after its installation, a would-be thief tried to pry the statue from its perch, but Stevenson had secured him with reinforced iron bar and "\$35 worth" of a powerful epoxy—and Buddha didn't budge. . . . The Buddha has withstood two attempts to remove him from his watch, one criminal and one governmental. Neither has worked. . . .

In 2012, after a resident's complaint, the city's Public Works Department tried to remove the statue but received such passionate blowback from neighbors that city officials decided to table and "study" the issue. Two years later, the administrative effort is long forgotten, and Buddha is still there. . . .

—excerpted from Chip Johnson,
"Buddha seems to bring tranquility
to Oakland neighborhood,"
SF Gate, September 15, 2014

sfgate.com/bayarea/johnson/article/Buddha-seems-to-bring-tranquillity-to-Oakland-5757592.php

Self-Empowerment Equals Spiritual Maturity

Holism is more than just another, or merely different, system of healing. It's the deepest level of healing. It requires a radical change in one's world view, with a whole-hearted commitment to treating our fellow human beings, the animals and plants with whom we share this planet, and the planet itself, with esteem and appreciation. A holistic approach also means understanding that healing takes place on many different levels: physical, mental, emotional, and spiritual.

Around the time that Royal Rife was seeing living microorganisms through his Universal Microscope, Wilhelm Reich was telling whoever would listen that our natural state as self-regulating organisms is love rather than fear. Love equals expansion and fear equals contraction. Expansion means actualizing our divine needs for love and community. Contraction means feeding hatred and greed. If we lived our lives in resonance with what was truly important—love—would theft, torture, or murder exist? Would genetically engineered organisms or toxic pesticides exist? Would we allow our natural resources to be depleted? Would governments be permitted to suppress solar powered and "free energy" inventions (unless people it liked benefited financially from them)? Would governments have the power to force populations to be medicated against their will? Would people who believe differently from those in power be thrown in jail? Would governments wage war and use biological and nuclear weapons? And would people be taught to hate and fear what they don't understand?

Sometimes in the rush to improve themselves, people grab onto the latest technique or product like just any other consumer item. If we treat holistic healing in this manner, it will become just like mechanized allopathic medicine—dressed in a gentler and prettier package perhaps, but still contaminated by an approach to consumption that is the opposite of holism. Is it not greed, a lack of connection, and a deprivation mentality that made us sick in the first place?

We can't afford to keep doing what we have been doing. People are becoming sicker rather than better. Can we clear any and all emotions that don't resonate with the frequency of love? And are we willing to take the intellectual, emotional, and spiritual risks—each in our own way, of course—to help us return to a healed state? Royal Rife took gargantuan risks. Can we each take one? Think of the quality of life we could have by sustaining a culture that supports health instead of illness, expansion instead of contraction, and life instead of death. Right now, the old paradigm mainstream culture is focused on death. A. Van Beveren writes:

The language we use always shapes our concepts, especially of disease. . . . In this patriarchal, hierarchical era we view the body as a battle field in which an (in)efficient bungling soldier slugs it out with a battalion of powerful, invisible “beasties” and, with the help of our trusty hypodermic, manages to survive all odds. So thick is the arena with military metaphors that we have fostered an attitude that every person is a victim unable to trust Mother Nature, or their own mind-body system and thus their own healing power (spirit). Never mind that the pathogenic role of bacteria, fungi and viruses has been grossly exaggerated by the medical profession. Never mind that these organisms fulfill an important biological duty and we would be unable to complete our biological cycles without their continuous presence. But because we allowed the soil, the terrain to become contaminated with man-made toxins, and opted for a (Feel Better Faster) antibiotic lifestyle, we think we need “immunity.” What we really need is immunity from coercion, immunity from interference and immunity from governmental “education.”⁷⁸

For the average person, education consists of what is hidden as much as what is actually taught. It amazes me sometimes how many people erroneously believe that “energy medicine” is some kind of fictitious voodoo. How ironic that people malign it—but then, our educational system does not teach us about the energetic nature of the universe, unless one studies at advanced universities specializing in quantum physics. All life on this planet grew and developed through exposure to certain wavelengths. Doesn’t it make sense that if we’re out of balance, these life-giving frequencies can help us heal?

Rife Therapy is connected to the many other frequency therapies that we are just beginning to appreciate: homeopathy, visible spectrum color healing, far infrared radiation (FIR) and ultraviolet (UV) treatments, sound, magnetic fields, and more. At this stage in our collective development, it’s folly to deny the abundant fields and energy bodies that comprise who we are.

To truly embrace electromedicine requires a fundamental understanding of the energetic nature of life. Once we grasp that we are not simply a collection of atoms that lose energy and eventually drift off into nothingness, all sorts of possibilities open before us. What may have begun as a belief that we are small and insignificant can transform into a deeply-felt recognition that we are, in fact, magnificent. Instead of feeling helpless, we can become empowered.

Intimacy and Power

Authentic power is being fully engaged in the present moment. It is being creative without limitation. It is enjoying the company of all life. It is caring and being cared for. It is being aware of everything that you are feeling, all of the time. It is living in joy. It is being so powerful that the idea of showing power through the use of force is not even a part of your consciousness. . . . Some individuals . . . see others as threats, opportunities, targets, resources, or the answers to their prayers. [But] . . . Intimacy is not the perception of immediate family, close friends, or dearest relatives as allies, sources of strength, and shelters against the storms that blow. Intimacy is trusting that the Universe will provide what you need, when you need it, and in the manner most appropriate for you. . . .

Intimacy is natural for us. We long to experience intimacy, and we are designed to be intimate—caring, sensitive, and loving toward one another. When you are intimate, you are fulfilled. Every encounter is satisfying, or pregnant with potential for deeper insight and spiritual growth. When you are not caring, sensitive or loving—when intimacy is lacking—nothing fulfills. Every interaction is cold, and sometimes cruel. Vulnerability is dangerous. This is a very painful experience. You feel isolated and alone. You cannot reach others and they cannot reach you. You strive to accomplish activities and achieve goals rather than create relationships. The only relationships you seek are functional—those that help you obtain what you desire. . . . Intimacy and the pursuit of external power—the ability to manipulate and control—are incompatible. Where one exists the other cannot exist. Lack of intimacy and the pursuit of authentic power . . . are also mutually exclusive. When you naturally create harmony, cooperation, sharing, and reverence for Life, you cannot suffer from lack of intimacy.

The pursuit of external power . . . creates only violence and destruction. Honoring the preferences of others creates harmony, sharing, and cooperation. It reveres Life. . . .

Faster aircraft, space colonies, the internet, and increased agricultural efficiency have no power to make us compassionate and wise. Neither do larger homes or more cars. Compassion and wisdom are the products of spiritual growth. They cannot be centrally planned, mass-produced, or globally distributed. They do not depend upon economies of scale, advertising, and cheap labor. They are not matters of policy but of personal intention. . . .

—excerpted from *The Heart of the Soul*
by Gary Zukav and Linda Francis (2001)

From the day we are born, we are put into school for a couple of decades and told, not taught, how the world works, what path to take, why to follow it, and how to fit in and become a “productive” member of society. This basically means we have to spend a large majority of our lives . . . to qualify to work long hours and subsequently earn the right to live. . . . No matter how little sleep we get or what problems we are having at home, mental blockages and other things that can arise during the human experience, we are and always have been told that we must be at work on time, ready to go without excuses. . . . [However,] food, clothing, shelter and more should not require little pieces of paper along with a bits of our soul to receive it . . . [As Josh Jones writes,] “Why must only the wealthy have access to leisure, aesthetic pleasure, self-actualization?” . . .

All of us are simply working for a small group of elite people that, through the corporations they run, basically control almost all aspects of our lives. Their idea of “globalisation” or a “New World Order” is one that requires our participation, and our consent. This type of system, one in which basically all of us are economic slaves, is one that we’ve become accustomed to. . . . [Moreover,] we’ve remained complacent, and simply accepted the human experience for what it is . . .

While we blindly continue to follow others, the world has experienced something it has never really experienced before. A massive paradigm shift is happening, a shift in the way we view, feel, and perceive our world and the current human experience. . . .

Something new needs to be created, a new way of life . . . Just imagine, if human beings created an experience where all of our needs were provided for. . . . What would we do with our time? It’s simple, we would explore, contemplate and discover. After all, that’s our natural state from birth, until we are told how the world works and what we are to do in it. . . . It’s really time to create a human experience that resonates with all of us, and what we and all life are meant to do, and that’s thrive. . . . There are so many wonderful creations and ideas out there that make a utopian society possible, it’s so simple that most people have a hard time believing it. . . .

[Buckminster] Fuller said: “You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete.”

—excerpted from Arjun Walia

“Why We Were Born To Do More Than Just Fit Into the System, Go to School, Work, Pay Bills and Die”

Collective Evolution, May 31, 2018

I see humanity precariously wavering between two paths. One path is that of the dominator paradigm. It promotes a soulless, mechanized view of the universe, which encourages hatred, mistrust, fear, and repression. Its health care model is allopathic medicine, which is disrespectful and rigid. Allopathic medicine sees people as a bunch of fragmented parts, and it uses drugs and surgery to mask symptoms and numb the body. This doesn’t address or repair underlying problems, but merely unbalances the body even more.

The other path is that of the connection paradigm. It promotes a spiritual view of the universe, which encourages love, creativity, joy, and expression. Its health care model is holism, which is respectful and flexible. Holistic healing recognizes that people are comprised of complex, interlinked energies and systems, and it uses substances and energy patterns that support, nourish, and awaken. Holistic methods also emphasize frequency therapies that employ both externally created devices and the healing that we generate from within our own bodies, minds, hearts, and spirits.

Whichever frequency therapy we choose—whether it’s ancient, new, or has yet to be discovered—by selecting a modality that resonates with who we really are, our structural integrity will remain intact rather than become dis-integrated. We are not integrated when the methods we use are invasive and unloving. The modality with the greatest potential for true healing seems obvious. We *can* choose it!

Throughout my life, I have done my best to act wisely. When I make mistakes, I try to forgive myself and learn from those mistakes so that I can make better choices in the future. My purpose for writing this book is to help you make better choices too. What we think and feel, and how we act, can make the difference between illness and wellness, fear and love, showing the worst of ourselves or living life with divine freedom and grace.

We are intricately connected to each other, in deeper ways than perhaps many of us ever dreamed. The choices that we make as individuals affect us all. May we all choose wisely. For everyone’s sake.



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Chapter 6

CREATING A BETTER WORLD,
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APPENDIX A

Resources

Most people live, whether physically, intellectually or morally, in a very restricted circle of their potential being. They make use of a very small portion of their possible consciousness, and of their soul's resources in general, much like a man who, out of his whole bodily organism, should get into a habit of using and moving only his little finger. Great emergencies and crises show us how much greater our vital resources are than we had supposed.

—WILLIAM JAMES, AMERICAN PHILOSOPHER,
PSYCHOLOGIST AND WRITER (1842–1910)

Unless otherwise specified, all addresses are in the United States.
Inclusion of the following products and services should not be construed as unconditional endorsement.

AIR PURIFICATION

Plant Air Purifier®
138 Maple Hill Drive
Kingston, New York 12401
phone: 855-247-9900
website: plantairpurifier.com

Based on research of NASA scientist Dr. B.C. Wolverton, the Plant Air Purifier® uses a common houseplant—along with a small, built-in electric fan in a specially equipped planter—to purify indoor air. The system includes activated carbon (to attract toxin particles from the air) and washed ceramic media (instead of soil) to hold the plant. While microorganisms naturally living on plant roots consume toxins and convert them into nutrients for the plant, the fan circulates air through the roots and into the room. This ingenious system cleans up to 100 times more air than a regular plant, and requires only water and occasional plant food.

BODY-MIND THERAPIES

Emotional Freedom Techniques (EFT™)
website: emofree.com

Whenever physical or emotional trauma occurs, our acupuncture meridians become unbalanced, which can lead to mental and physical health problems. EFT™, developed by engineer Gary Craig, is used to manage the effects of abuse, restoring the integrity of the short-circuited meridians without drugs or equipment. It alleviates or eliminates entirely: addictive cravings, anxiety, depression, fears, grief and phobias, as well as physical pain, breathing difficulties, headaches and overweight. EFT™ (also known as “tapping”) is self-administered and easily learned. It's effective for children, adults and even animals, with a clinical effectiveness of over 80%. Mr. Craig's website offers a free, downloadable EFT™ manual. Other people who learned EFT™ from Craig have created modalities that resemble EFT™, but Craig's method of teaching may yield the safest and most comprehensive results. Mr. Craig also offers an EFT™ practitioner certification course.

CANCER TREATMENTS, HOLISTIC

These groups provide information on alternatives to surgery, chemo and radiation for all types of cancer. They may also refer speakers, hold events, offer recommendations to doctors and clinics, and/or provide customized cancer protocols.

Cancer Control Society
2043 North Berendo Street
Los Angeles, California 90027
contact: Lorraine Rosenthal
phone: 323-663-7801
website: cancercontrolsociety.com

Cancer Information and Support Society
6/56 Chandos Street
St. Leonards, New South Wales, 2065
Australia
website: ciiss.org.au

New Approaches to Cancer
website: www.anac.org.uk

While this website no longer has an active staff, it does contain links to practitioners and other groups that address cancer holistically.

The Cancer Alternative Foundation
PO Box 268
East Dover, Vermont 05341
phone: 802-348-7286
website: thecanceralternative.org

The Cancer Cure Foundation
PO Box 3782
Thousand Oaks, California 91359
phone: 800-282-2873 (toll-free)
805-498-0185 (local and international)
website: cancure.org

www.HealingCancerNaturally.com

www.CancerTutor.com

COLLOIDAL SILVER GENERATORS and ONLINE DISCUSSION GROUP

See Chapter 3 for detailed information on colloidal silver.

Coyote Zenterprizes
PO Box 13
Moncure, North Carolina 27559
contact: Kenneth Steckenrider
phone: 919-776-6396
website: silverpuppy.com

Pulsed Technologies USA (mailing only)
Pulsed Technologies Research, LLC
1500 Northcrest Drive
Plano, Texas 75075
USA
phone (main support number, inquiries, sales technical):
214-453-0095 / 800-801-4798
websites: pulsedtech.com
pulsedtechresearch.com

Silver generator is run by any of the company's PFG2 series frequency devices; see "Rife Frequency Devices" in this Appendix. After making ionic silver solution, the device imprints, into the fluid, frequencies you choose for pathogen destruction or tissue regeneration.

SilverGen
170 Embury Road
Port Ludlow, Washington 98365
contact: Trem Williams
phone: 877-745-8374
fax: 360-732-5071
website: silvergen.com

Sota Instruments Inc.
PO Box 20019
Penticton, British Columbia V2A 8K3
Canada
phone: 800-224-0242 (toll-free)
250-770-2023 (local and international)
website: sotainstruments.com

Colloidal Silver Internet Discussion Group
website: groups.io/g/silverlist

COLOR THERAPY

Dinshah Health Society (Spectro-Chrome) PO Box 707

Malaga, New Jersey 08328

contact: Darius Dinshah, president

phone: 856-692-4686

website: dinshahhealth.org

For Spectro-Chrome Color Therapy, transparent plastic sheets imbued with specific colors are placed on bare skin (see Chapter 3). Included in membership are DVD, newsletters, and protocol manual explaining where to obtain the correct frequency color transparencies and how to do the therapy. Do an Internet search for "Roscolene Filters" for authorized dealers who sell larger size sheets that cover the entire body.

Irlen Institute 5380 East Village Road Long Beach, California 90808

phone: 800-55-IRLEN (toll-free)

562-496-2550 (local and international)

website: irlen.com

The Irlen Method was devised to help with reading problems, headaches, light sensitivity, autism, ADD / ADHD, dyslexia, and other conditions by addressing the brain's inability to process visual information. Special colored transparent overlays, called "Irlen Spectral Filters" or "Irlen Lenses," help correct the visual processing centers of the brain. Website contains a list of specialists all over the world as well as the color transparencies for purchase. Note: the color filters sold here are *not* the same as those from Spectro-Chrome. They are completely different systems!

DETOXIFICATION

PureBeing, Inc. 11015-9 Olson Drive Rancho Cordova, California 95670

contact: Daniel Root, CEO & Senior Detoxinician

phone: 916-366-0999

website: getdetoxinated.com

Based on a protocol further developed by distinguished medical doctor David Root, this is without question the fastest, and perhaps safest, method of eliminating toxic metals, noxious chemicals, and even drug residues from the body. The protocol requires the ingestion of niacin and other nutritional supplements, along with polyunsaturated oils, combined with exercise (or a substitute) to get the circulation moving, and sauna therapy. Clients report enormous benefits after only two weeks.

ELECTROMEDICINE THERAPIES (not Rife), equipment that runs on electrical power

See Appendix C, "Healing with Electromedicine and Sound Therapies," for detailed information on most of these modalities.

Electrical Current (portable)

Avazzia 13140 Coit Road, Suite 515 Dallas, Texas 75240

contact:

phone: 214-575-2820

website: avazzia.com

Tennant Biomodulator Senergy Medical Group 9901 Valley Ranch Parkway East, Suite 1009 Irving, Texas 75240

phone: 866-514-8221 (toll-free)

972-580-0545 (local and international)

website: senergymedicalgroup.org

Frequency Specific Microcurrent

Frequency Specific Seminars 3915 NE 38th Street

Vancouver, Washington 98661

contact: Carolyn McMakin, DC

phone: 877-695-7500 (toll-free)

360-695-7500 (local and international)

website: frequencyspecific.com

Magnetism, Oscillating Fields

Henry Lai, PhD Department of Bioengineering, University of Washington

email: hlai@u.washington.edu.¹

Magnetic Vortex

Magnetex[®] PO Box 1335

Waller, Texas 77484

contact: Paddy McAlister, founder

phone: 713-408-3456

website: magnetex.org

Pulsed Magnetic Fields

Ondamed™ Inc.
5 Fairlawn Drive, Suite 200
Washingtonville, New York 10992
contact: Silvia Binder, ND, PhD
phone: 845-534-0456
fax: 845-534-0457
website: ondamed.net

BEMER USA LLC
1989 Palomar Oaks Way
Carlsbad, California 92011
phone: 800-554-9117 (toll-free)
website: bemergroup.com (Note: this website is also
for BEMER International AG in Liechtenstein.)

Quantum Energetics (Biofeedback)

I.M.A.E.T.
5631 W. Genesee Street
Camillus, New York 13031
contact: Bernard Straile, DC
phone: 315-430-4211
website: imaet.com

The I.M.A.E.T. consists of software, a harness that attaches to the body, and other accessories for additional contact. The computerized database contains thousands of frequencies for allergens, emotional stressors, diseases, microbes, nutrients, herbs, meridians, homeopathic and Ayurvedic remedies, the spine, organs, glands, and much more. The practitioner makes corrections using the energy signatures of selected items in the database, allowing the unit to communicate with the subject on a quantum level. The machine can also work via subspace.

Sound

VoiceBio™
Kae Thompson-Liu
PO Box 43
Moneta, Virginia 24121
contact: Kae Thompson-Liu, naturopath
phone: 707-888-5349
website: voicebio.com

Wave Therapy (corporate office and clinic)
7885 West Sunset Road
Las Vegas, Nevada 89113
contact: Sandy Kaneshiro
phone: 702-701-9203
website: facebook.com/
Wave-Therapy-Center-613336279129532/

EMF PROTECTION

See Appendix C, “Healing with Electromedicine and Sound Therapies,” for detailed information on most of these modalities. Also see Insert, “Electromagnetic Fields and Your Health” in Chapter 1.

Jewelry (Embedded)

Eradicator Technologies
12 Grovetree Road
Toronto, Ontario
Canada M9V 2Y2
contact: Alain Basic
phone: 416-399-0634
website: eradicatortechologies.com

Tuning Element™
1440 State Highway 248
Suite Q, BOX 435
Branson, Missouri 65616
contact: Sean Martinez, founder and director
phone: 417-973-0000
website: tunedjewelry.com

Shielding Products, Meters, Books

www.LessEMF.com

VitaSet Generator (VSG)

Pulsed Technologies USA
phone (inquiries, sales, technical, main support):
214-453-0095 / 800-801-4798

Pulsed Technologies Romania
phone, global (inquiries, sales, technical):
+40-722-643-640
websites: pulsedtech.com
pulsedtechresearch.com

The VitaSet Generator (VSG) emits all five of the Schumann Resonances of the Earth’s magnetic field. Humans and animals evolved to the Schumann Resonances, which are essential for proper DNA signaling and many metabolic processes. However, abnormally high, competing, concentrated electrical stimulation—from high voltage power lines to WiFi—interfere with the body’s ability to tap into, and be nourished by, the natural frequencies of the Earth. In fact, in most places these resonances are virtually non-existent due to the invasion of millions of harmful EM fields all around us. The VSG’s emissions, restoring what is not easily available to us, helps normalize the body’s biological functions and help heal.

L.I.F.E. App

website: <https://app.cell-wellbeing.com/EZwater>

Used similarly to the Hydration App (page 905), the photonic frequencies used by the L.I.F.E. App are designed to help the body protect itself against electrosmog.

Websites (Informational)

magdahavas.com (general public)

magdahavas.org (academic)

phone: 705-748-1011, ext. 7882

Magda Havas, PhD, is a leading authority on the dangers of electrosmog that's produced by cell phones, WiFi, motors, wind turbines, power lines, antennas, and electrical towers. Her websites contain information on health issues, links to EMF organizations, products, and more.

www.powerwatch.org.uk

This non-profit independent organization, which has been researching the effects of EMFs for over two decades, promotes policies for a safer environment and provides a wealth of information on its website.

ENERGY and TECHNOLOGY INFO

Borderland Sciences

PO Box 6250

Eureka, California 95502

phone: 707-497-6911

website: borderlandsciences.org

Sells videos, books and other materials on science, medicine and futuristic technology, including the contributions of Nikola Tesla and Royal Raymond Rife.

Institute of HeartMath

14700 West Park Avenue

Boulder Creek, California 95006

phone: 800-711-6221 (toll-free)

831-338-8500 (local and international)

website: heartmath.org

Engaging and synchronizing the heart and brain rhythms causes neural and biochemical shifts that reverse stress, boost cognition, and encourage vitality and performance. The Institute also conducts research on the relationship between people and the Earth's magnetic fields and other aspects of the natural world. The techniques—scientifically validated to reduce anger, anxiety, depression, hostility and risky behavior, and to accelerate learning, optimal performance and positive social behaviors—are used globally in private homes, universities, hospitals, businesses, government institutions, prisons, the military, and schools.

**International Society for the Study of Subtle
Energies and Energy Medicine (ISSSEEM)**
PO Box 297

Bolivar, Missouri 65613

phone: 888-272-6109

website: issseem.org

International, non-profit interdisciplinary organization dedicated to exploring and applying subtle energies pertaining to consciousness, healing, and human potential. Bridges many disciplines including quantum physics and psychology. Sponsors conferences, seminars, and workshops. Publishes *Bridges*, a quarterly magazine, and *Subtle Energies & Energy Medicine*, a peer-reviewed, scientific journal.

**HEALTH / FOOD / NUTRITION / CHEMICALS
INFORMATION and POLITICAL ACTION**

Alliance for Natural Health (United States)

website: www.anh-usa.org

Alliance for Natural Health

(outside the United States)

website: anhinternational.org

This outstanding organization provides education on the dangers of pharmaceuticals, EMF and environmental pollution, genetically modified organisms, fluoride, etc. For a long time, ANH has initiated legal action against governmental agencies, corporations and individuals to protect the right of natural health providers to practice, to allow consumers to choose their own health care, and to protect our access to nutritional supplements.

America's Frontline Doctors

websites: americasfrontlinedocs.com

americasfrontlinedoctors.org/treatments

The first website, founded by noted doctor Simone Gold, contains references and articles that address the misinformation on Covid-19 that is peddled by mainstream media. The second, companion site discusses how hydroxychloroquine, ivermectin and budesonide (relatively safe pharmaceuticals), along with some natural substances, can be used to cure Covid-19, with links to doctors who can prescribe the pharmaceuticals.

Brix

website: biomedx.com/education/index.html

Educates about many important topics including BRIX foods, and provides information on how to obtain BRIX materials, including refractometers.

Buhner Healing Lyme

website: buhnerhealinglyme.com

Award-winning author of over twenty books on herbal medicine, Stephen Harrod Buhner's comprehensive educational website is one of the most valuable resources for people with Lyme and co-infections.

Cancer Tutor Library

website: cancertutor.com

Books, eBooks, courses, and videos.

Dr. Joseph Mercola

website: mercola.com

Comprehensive and popular holistic health site.

Dr. Mathias Rath

website: dr-rath-foundation.org

Dedicated to protecting the right to choose one's health care. Articles on natural health in 17 languages.

Fluoride Action Network (FAN)

website: fluoridealert.org

Current information on fluoride toxicity. Monitors actions that impact the public's exposure to fluoride.

Green Medicine Info

website: greenmedinfo.com

Sayer Ji's groundbreaking site contains accessible and interesting information not found elsewhere. This is a must for both serious researchers and the general public.

Lifesite News

website: lifesitenews.com/

Presents cutting-edge research, news, videos and opinion pieces concerning health and medical politics that are distinctly in opposition to mainstream medicine and the political status quo. The petitions it offers have a decidedly Christian orientation.

National Health Federation

website: thenhf.com

A grassroots organization working to guarantee your right to use the doctor, nutrition, or therapy of your choice.

Natural Health News

website: naturalnews.com

Cutting-edge information related to health and health politics, founded by Mike Adams. TruthWiki was created to counteract the medical propaganda on Wikipedia.

Organic Consumers Association

6771 South Silver Hill Drive

Finland, Minnesota 55603

phone: 218-226-4164

website: organicconsumers.org

Public interest, grassroots organization promotes worldwide food safety, organic farming and sustainable agriculture. Addresses food adulteration of all kinds, including genetic engineering. Promotes honest food labeling, USDA food standards and more, through education, activism, boycotts, lobbying, media relations and litigation.

Pesticide Action Network North America

2000 Allston Way, PO Box 521

Berkeley, California 94704

phone: 510-788-9020

website: panna.org

Provides information on chemicals, agriculture, food, and alternatives to pesticides, conducts political actions (including lawsuits), and offers petitions.

Price-Pottenger Nutrition Foundation

7890 Broadway

Lemon Grove, California 91945

phone: 800-366-3748 (toll-free)

619-462-7600 (local and international)

website: price-pottenger.org

Based on the work of Weston Price and Frances Pottenger, provides information on healthy lifestyle, ecology, nutrition, alternative medicine, farming, and organic gardening.

www.StephanieSeneff.Net

MIT Senior Research Scientist Stephanie Seneff, PhD, specializes in the effects of glyphosate and how it destroys the health of humans, animals, and the environment.

Truth in Labeling Campaign

website: truthinlabeling.org

Information on MSG, artificial sweeteners, food coloring, and related issues.

The Weston A. Price Foundation

PMB 106-380

4200 Wisconsin Avenue, NW

Washington, DC 20016

phone: 202-363-4394

website: westonaprice.org

Disseminates the work of Weston A. Price, who documented native diets that prevent tooth decay and maintain health. Publishes an outstanding journal and other literature on food and healing.

FREQUENCY DATABASES

CAFL

website: electroherbalism.com/Bioelectronics/FrequenciesandAnecdotes/CAFL.htm

FREX

website: rife.de/frex-frequency_database.html

Free interactive downloadable database available from Australian rife and massage therapist Ken Uzzell. Upgrade for a very modest fee. This system is used worldwide with speakers, headphones, electrodes and even plasma tubes.

HOLISTIC MEDICINE *and* DENTISTRY: PRACTITIONER DATABASES & EDUCATION

These organizations provide educational materials and databases of practitioners. Some may offer conferences and review courses for professionals, and monitor legislation relevant to practitioners.

Academy of Integrative Health & Medicine

6919 La Jolla Boulevard
San Diego, California 92037

phone: 858-240-9033

website: aihm.org

American Association of Naturopathic Physicians

website: naturopathic.org

American College for Advancement in Medicine (ACAM)

380 Ice Center Lane, Suite C
Bozeman, Montana 59718

phone: 800-532-3688 (toll free)

website: acam.org

American Holistic Health Association

PO Box 17400
Anaheim, California 92817

phone: 714-779-6152

website: ahha.org

American Naturopathic Medical Association

PO Box 96273
Las Vegas, Nevada 89193

phone: 702-450-3477

website: anma.com

Foundation for Alternative & Integrative Medicine

PO Box 2860

Loveland, Colorado 80539

website: nfam.org

Holistic Dental Association

1825 Ponce de Leon Boulevard, #148

Coral Gables, Florida 33134

phone: 305-356-7338

website: holisticdental.org

International Academy of Biological Dentistry and Medicine (IABDM)

19122 Camellia Bend Circle

Spring, Texas 77379

phone: 281-651-1745

website: iabdm.org

International Chiropractors Association

6400 Arlington Boulevard, Suite 800

Falls Church, Virginia 22042

phone: 703-528-5000

website: chiropractic.org

National Center for Homeopathy

PO Box 1856

Clarksburg, Maryland 20871

website: homeopathycenter.org

HOSPICE

Hospice Foundation of America

1707 L Street NW, Suite 200

Washington, DC 20036

phone: 1-800-854-3402

website: hospicefoundation.org

National Hospice and Palliative Care Organization (NHPCO)

1731 King Street

Alexandria, Virginia 22314

phone: 703-837-1500

website: nhpco.org

MEDITATION

Natural Stress Relief®

natural-stress-relief.com

“How to Create Your Own Mantra and Learn to Meditate”

nenahsilver.com/how-to-meditate.html

This download offers, for free, the principles and “how to” instructions of a famous mantra-based course that costs many hundreds of dollars.

MICROSCOPES

Grayfield Optical Inc.

Freiburger Str. 17

50859 Cologne

Germany

phone: UK +44 20 8133 4321

Europe +49 221 20046970

United States 702-425-7775

website: grayfieldoptical.com

Ergonom microscopes have a higher resolution ability and greater depth of field than even Rife's best microscope (while being much easier to use). All Grayfield instruments feature variable depth of field—independent of magnification—as well as extended working distance and full contrast in true color, without any need for staining or oil-immersion. These features allow for the observation of living organisms.

NUTRITIONAL SUPPLEMENTS (*unique or hard to find*)

Aloe

IED Limited

222 SW 2nd Street, Suite 203

Grand Prairie, Texas 75051

phone: 972-262-1446

This company, operated by the son-in-law of Dr. Ivan Danof—the “Father of Aloe” (see Chapter 1)—formulates and distributes high quality aloe vera products made from the inner leaf only. Practitioners may purchase wholesale.

Clay

Jason Eyton's Clay Website

eytonsearth.org

Comprehensive, one-of-a-kind website explores the world of natural healing clays, pelotherapy, and balneology. Information, accounts of recoveries, and instructions on how to use clays of many types: illite, bentonite, montmorillonite, terramin. Information, forum, and excellent quality clays (powder and rehydrated) available for purchase.

Essential Oils

New Directions Aromatics

newdirectionsaromatics.com

Essential oils are becoming big business as the world discovers their healing and uplifting properties. Many businesses (especially multilevel marketing companies) claim that their oils are the best, especially if they're organic; but the organic market worldwide is supplied by only a few sources, so don't rely on brand name hype. It's also less expensive to buy in bulk and make your own blends.

Pine Oil (Naturally Derived Turpentine)

Diamond G Forest Products, LLC

Patterson, Georgia 31557

phone: 912-647-7463

website: diamondgforestproducts.com

Pure gum spirits of turpentine is a powerful essential oil made from pine tree sap—not at all the same product as the chemically synthesized turpentine used to clean artists' brushes. The pine oil is sold as a clear essence, as pine gum rosin, and in soap. See Chapter 1 for more information on the history and therapeutic uses of real turpentine.

Salt

Consolidated Midland Corporation (CMC)

20 Main Street

Brewster, New York 10509

phone: 845-279-6108

The 1-gram sodium chloride USP tablets should be ordered through your local pharmacy. Although not a prescription drug, salt tablets are not usually stocked, and must be special ordered. The NDC number of the CMC salt pills is 0223-1760-01.

Celtic Sea Salt

United States

phone: 800-867-7258 (toll-free, US)

website: elinanaturally.com

The source of several grades of high-quality sea salt with all its minerals intact, gathered off the French coast on government protected lands. Celtic salt is also sold in many natural grocery stores around the world.

Vitamin-Mineral Supplement

VitalMinz

website: healthvitalminz.com

phone: 605-453-2777

There are so many vitamin and mineral supplements on the market today that not only the average consumer, but even seasoned health professionals often feel overwhelmed by the choice and variety. With very few exceptions, nutritional supplements contain additives, fillers and allergens. Even the majority of presumably high quality products marketed to health professionals contain ingredients I would never ingest. Also, people who are ill or over 40 years of age absorb only a fraction of what tablets or capsules offer, so the benefits of taking solid supplements are decreased and money is wasted. VitalMinz liquid supplement is unique in several ways. It's a complete supplement, containing all vitamins and minerals (including trace minerals). All of the nutrients are "cell ready"—which means either in ionic or liposomal form, which makes this supplement 100% absorbable the moment it reaches your mouth. Furthermore, there are no fillers (including useless sugar-rich fruit juices) that most other liquid supplements contain. This means that the daily suggested amount is only one tablespoon. Some people take even less when they feel themselves start to detox. The liquid can be taken straight or diluted in a beverage. People report experiencing a steady energy that gets them through the day, a lessening of aches and pains, and an overall feeling of improved well-being.

Water

Willard's Water

website: willardswater.com

phone: 800-447-4793 (toll-free, US)

Catalyst Altered Water (CAW), developed in the 1960s by chemist John Willard Sr., is an alkaline water containing several added minerals and sulfated castor oil, and which is imbued with an electrical charge. When added to ordinary water, CAW changes the structure of all the surrounding molecules, making the fluid "wetter." Ingested, the new water catalyzes and enhances the body's own processes, including its ability to absorb nutrients. Used externally, the water heals wounds. It also helps plants grow faster. CAW had 21 patents. Some of them pertained to treating damaged and infected tissue, relieving stress and shock, reducing infectious disease and even lessening anti-social behavior in humans and animals. Just a few are: "Method of Reducing the Incidence of Infectious Diseases and Relieving Stress in Livestock"; "The Incidence of Infectious Disease in Poultry is Reduced and/or Anti-Social Behavior (Cannibalism) is Reduced"; and "Therapeutically Treating Damaged and/or Infected Tissue in Warm Blooded Animals and Relieving Stress and Shock in Warm Blooded Animals." Be aware that some companies sell an adulterated diluted version, which doesn't possess the beneficial properties of the original formula. To obtain the exact recipe that Dr. Willard created, buy from the above site.

PAIN PATCHES, FREQUENCY-INFUSED (energy, non-electrical)

See Appendix C, "Healing with Electromedicine and Sound Therapies," for details on this non-pharmaceutical modality.

Tuning Element™

1440 State Highway 248, Suite Q, BOX 435

Branson, Missouri 65616

contact: Sean Martinez, founder and director

phone: 417-973-0000

website: tunedpatch.com

PERSONAL CARE and HOUSEHOLD CLEANING PRODUCTS

See Appendix F on dangerous chemicals and Appendix G on safe substitutes and how to use Enviro-One for many types of cleaning.

Enviro-One

contact: Allen Victor

phone: 800-953-2630 (toll-free, US and Canada)

website: enviro-one.com

This colloidal micelle soap—specially formulated for the chemically sensitive and immune-compromised—is non-toxic, biodegradable, hypoallergenic, non-fuming, non-reactive, fragrance free; and it doesn't leave any residue on the skin. Ingredients: fatty acids, vegetable- and plant-based enzymes and minerals, organic alcohol, coconut oil, folic acid, vanilla, and purified water. There's no risk of chemical reaction with other ingredients because it works mechanically (due to its molecular shape and electrical charge). This fluid will clean any washable material: metal, plastic, fabric, wood, tile, glass, concrete, even foods—and yes, humans and animals too. It's sold in concentrate form, so you don't pay for shipping water (different dilutions perform different functions). It disables bacteria, viruses and fungi, so it has many applications, depending on the dilution used. This can be used as a shampoo for lice; and farmers and gardeners are even using it to repel harmful insect pests (note that it doesn't harm beneficial ones such as ladybugs). Private labeling is offered.

RIFE-RELATED MEDIA (BOOKS, DVDs)

BioMed Publishing Group

PO Box 550531

South Lake Tahoe, California 96155

phone: 530-573-0190

website: lymebook.com

This publishing company offers a wide range of unique health-related books and DVDs. Topics range from Lyme and mold-related illness to autonomic response testing and amalgams. Bryan Rosner's very informative books—including *Lyme Disease and Rife Machines*, *The Top 10 Lyme Disease Treatments*, and his newest, *Freedom From Lyme Disease*—are also available. Recommended by laypersons and practitioners.

CAFL

website: electroherbalism.com/Bioelectronics/FrequenciesandAnecdotes/CAFL.htm

Internet-based Consolidated Annotated Frequency List (CAFL) from United States rife Brian McInturff.

Film: "Symbiosis or Parasitism"

website: grayfieldoptical.com/symbiosis-or-parasitism.html

German naturopath Bernhard Muschlien, in conjunction with Kurt Olbrich, inventor of the Ergonom microscope, has created this film that shows the pleomorphic nature of some microorganisms. This site also has many articles, all free.

KE Enterprise

phone: 866-757-9375 (toll free, North America)

website: rifevideos.com

"The Royal Rife Story" is an in-depth look at the life and inventions of Rife, including old footage of Rife's 1936 lab and accounts of bacteriological discoveries in Rife's own voice. "Royal Rife—In His Own Words" was made from an hour-long audio recording by Rife in the 1950's, in response to requests by colleagues to explain his work in bacteriology and how he found the cancer virus.

Rife Frequency Therapy, Electromedicine, and Holistic Health: a comprehensive course for both laypersons and practitioners

website: nenahsilver.com

This 14-hour DVD set of the 2016 Phoenix, Arizona conference is a complete in-depth course. Includes the history and principles of Rife Therapy; how to administer rife sessions; complementary modalities; special protocols

for dealing with Lyme, co-infections and *Candida*; electromedicine technicals and terms (to avoid being misled by false claims by equipment manufacturers); sauna therapy and other electromedical devices; advances in cellular research; and the bioelectrical properties of cells. Featured speakers are Nenah Sylver, PhD; neurologist and clinical nutritionist Steve Haltiwanger, MD, CCN; scientist Jimmie Holman of Pulsed Technologies (the US and Romania); Edna Tunney of Resonant Light Technology (Canada); and Paddy McAlister of Magnetex (the US). The device manufacturers discuss their equipment, and there are Q&A sessions on both days. Also, Dr. Steve Haltiwanger demonstrates muscle testing (kinesiology) and Nenah Sylver leads an exercise on how to tune in more accurately to your body.

RIFE FREQUENCY EQUIPMENT

BCX Ultra

Subtle Light & Sound Technology United States

contact: Roger Whitman

phone: 530-623-1935

Transmits frequencies via hand-held gas-filled tubes with 45 KHz RF carrier wave, hand-held metal electrodes and foot plates, a coiled freestanding plasma tube, or LEDs. Functions include customizable gate, duty cycle, and varied waveforms. In addition to 1236 preprogrammed channels, up to 255 frequencies can be manually programmed. Frequency range is up to 100,000 Hz. Warrantee and 30–60 day buy-back guarantee. The manufacturer does not maintain a website, instead preferring that customers do an Internet search for distributors. For your search, use the phrase "BXC Ultra."

BioWave 77 and BioWave 21 LCD

Bio Frequenz-Center Pfarrer-Bodden-Str. 20 50181 Bedburg Germany

contact: Peter Schmalzl

phone: + 49-02272-90 51 58

website: bio-frequenz-center.de

These devices, certified in Europe for medical use, have a frequency range of 1 Hz–1 MHz. The professional BioWave 77 for therapists can be programmed with up to 30 frequencies—either manually, or from database chip cards containing frequencies taken from the databases of Royal Rife, Hulda Clark, and others. Master chip cards can store individual programs that can be used either on this

equipment or on the BioWave 21 LCD. The BioWave 21 LCD, which is for home use, can run pre-programmed chip cards for many conditions—as well as the master chip cards that have been programmed on the BioWave 77. Note that as of this writing, the names of the equipment might have changed. The company may be undergoing restructuring and other companies may also be selling this or similar units; so periodically do an Internet search.

EM+ Resonant Radiant Plasma Systems

Bruce K. Stenulson

PO Box 69

Fairplay, Colorado 80440

phone: 719-836-2489

website: stenulson.net/althealth

Plasma systems with selectable power output levels that can run multiple plasma tubes. Most EM+ systems have both an internal frequency generator and the ability to interface with a wide variety of frequency generating software or external frequency synthesizers. Also sells colloidal silver making accessories, pulsed magnetic research equipment, and a two-chamber footbath system utilizing nontoxic carbon electrodes and resonant frequencies.

F-Scan

TB-Electronics GmbH (Europe / World)

Bahnhofstrasse 3

CH-9443 Widnau

Switzerland

contact: info@fscan.com

phone: +41 71 7225255

website: fscan.com

Health Balances (North and South America)

10814 206th Street E

Graham, Washington 98338

contact: Richard Loyd, PhD

phone: 206-883-1900

website: royalrife.com

There are two sizes: the portable F-Scan 2 and the even smaller Compact (which comes in two models and will fit in a pocket). The F-Scan 2, which ranges from 1 Hz to 15 MHz, can be controlled by a computer using the included software, or it can be used by itself. It can transmit frequencies via electrodes or for radiant plasma devices. In the DIRP mode, it scans the body for pathogen frequencies and then applies them. The Compact model with DIRP capabilities scans from 80,000 Hz to 560,000 Hz. Both Compacts can produce frequencies of up to 5 million Hz. All F-Scan units produce sine, square, and pulsed DC waves (like a zipper).

GB-4000

AAA Production Inc.

PO Box 277

Moroni, Utah 84646

phone: 888-486-4420 (toll free, North America)
435-436-5235

website: gbgenerators.com

GB-4000 reaches up to 20 MHz, has a 2.4 MHz carrier frequency, and can output up to eight frequencies simultaneously to 40,000 Hz on its programmable channels. It does regular sweeps, converge sweeps and gating, and runs sine and square waves. One year parts and labor warranty. The manufacturers regard the GB-4000 as test equipment, and make no medical claims for the device. The M.O.P.A. plasma tube is sold by a separate company. Some customers who purchased the plasma unit reported having to sign a disclaimer that absolves the manufacturer of liability if the radio frequency carrier wave interferes with TVs and other electrical equipment within a certain radius.

Life Frequencies

BZtronics

Salt Lake City and Las Vegas, Nevada

phone: 801-738-3490

website: bztronics.com

The owner's foundation in software design, together with an interest in health, led him to develop a different type of frequency conveyance: sound, using headphones and speakers. The software can be downloaded instantly, and is less expensive than more conventional "rife" equipment.

PERL M+

Resonant Light Technology Inc.

4875 North Island Highway

Courtenay, British Columbia V9N 5Y9

Canada

contact: Edna Tunney

phone: 877-338-4949 (toll-free)

250-338-4949 (local and international)

website: resonantlight.com

The PERL M+, about 12 pounds and 12.5" x 5.5" x 17.5", is equipped with a glass tube filled with 100% argon gas. It emits frequencies (up to four signals simultaneously) over a 27.125 MHz carrier. Frequency selection is from 1.000 Hz to 3,100,000 Hz. The selectable waveform (square, sine, or triangle) has a range of up to 30 feet. The customer can either program frequencies into the unit or use one of over 2,000 sets of pre-programmed protocols. It comes with the ProGen 3, which drives the unit and has over eight thousand channels. Optional accessories include contact electrodes and LEDs.

PFG 2Z (Precision Function Generator) and P3 (Precision Pulsed Plasma) Equipment

Pulsed Technologies USA (mailing only)
Pulsed Technologies Research, LLC
 1500 Northcrest Drive
 Plano, Texas 75075
 USA

phone (main support number, inquiries, sales technical):
 214-453-0095 / 800-801-4798

Pulsed Technologies Romania (office & mailing)
SC Bioenergetics & Pulsed Technologies SRL
 Alea Mizil 28-36, sector 3
 Bucharest, 032347
 Romania

phone, global (general inquiries, sales, technical):
 +40-722-643-640

websites: pulsedtech.com
pulsedtechresearch.com

PFG Series 2 machines emit complex waveforms via company supplied software and a user supplied personal computer. PFG2 units operate with either electrodes or plasma tubes. P3 tube units are controlled by the PFG series generators. Optional accessories, such as an immersible electrode and colloidal silver attachment, are also available. Software for all equipment can import frequencies from other sources.

RIFE FREQUENCY FINDING and CUSTOM PROGRAM SERVICES

For frequencies that are not in this book, consult a source below. Ms. Boehm earned a patent for her unique proprietary system of frequency calculation. Dr. Sutherland calculates frequencies and works remotely with clients. Dr. Monahan works with clients in person and remotely, and finds and uses frequencies as needed.

Char Boehm
cpsBioResearch LLC
website: dnafrequencies.com

Jeff Sutherland, PhD
The Frequency Foundation
phone: 617-606-3652
website: frequencyfoundation.com/blog

Marty Monahan, DC, NMD
Sonridge Health & Healing Center
phone: 904-794-2121
website: sonridgehealing.com

RIFE WEBSITES and INTERNET SUPPORT GROUPS

There are dozens of websites devoted to Royal Rife and modern-day devices inspired by his original Beam Ray. Some of the groups focus on particular health issues. Below are some of the most popular sites.

Rife Research, Europe
website: rife.de
webmaster: Peter Walker

www.rifeforum.com
webmaster: Peter Walker

Huge website of historical documents, photos, and its own discussion forum on the latest Rife studies from researchers and organizations, many based in Europe. Research includes a scientific placebo study on the use of a Rife pad device to treat arthritis. Information is constantly being added to this site, so view it often.

www.rife.org
webmaster: Stanley Truman, Jr.

The most complete known collection of Rife historical records: scientific papers; letters to and from Rife; newspaper, magazine and journal articles; Rife's lab notes; photos of Rife, his wife, colleagues and lab equipment; slides of specimens seen through the Universal Microscope.

<https://groups.rifeforum.com/>
webmaster: Peter Walker

Peter Walker, who over the course of two decades has been responsible almost single-handedly for building and maintaining the Rife Research community, hosts an enormous amount of information and various rife- and health-related groups on his server. Below are just some of the groups he hosts. See the main group, the Rife Forum, for a complete list with links to join the other groups.

<https://groups.rifeforum.com/electroherbalism.php>

https://groups.rifeforum.com/lyme_rife.php

<https://groups.rifeforum.com/rife.php>

<https://groups.rifeforum.com/rifeforum.php>

<https://groups.rifeforum.com/rifers.php>

<https://groups.rifeforum.com/rife-list.php>

<https://groups.io/g/drloyd>

SAUNAS

For detailed information on body heating and the benefits of sauna therapy, see *The Holistic Handbook of Sauna Therapy* by Nenah Sylver.

Arrowhead Health Works

PO Box 3668

Crestline, California 92325

contact: Carolyn Bormann, ND, owner & director

phone: 909-338-3533

website: arrowheadhealthworks.com

This health center sells the Bio-Spectra™ Far Infrared ozone-compatible, portable carbon dome dry sauna with Clean Power Technology™. In this sauna cabinet, the person lies down. There are no toxic glues or adhesives used in the construction of the sauna. The wiring is shielded to neutralize any harmful electrosmog that normally might be emitted by the heater. The sauna can also be equipped with LEDs, a negative ion generator, and/or PEMF (pulsed electromagnetic field) mat options.

Clearlight Far Infrared Sauna Technology, Co.

1077 Eastshore Highway

Berkeley, California 94710

phone: 800-798-1779 (toll-free)

510-601-1775 (local and international)

website: infraredsauna.com

All far infrared saunas are made according to the specifications of chiropractor Raleigh Duncan. No toxic glues or adhesives are used in the construction of the saunas. Cedar wood, which is naturally antifungal and antibacterial, can be used for the saunas; but for people who are allergic to or intolerant of the aromatic compounds in cedar, other hypoallergenic options such as basswood are available. The heaters are made of both carbon and ceramic, and emit many different wavelengths to ensure penetration of heat into the body. Most important, cancellation of harmful electromagnetic fields is accomplished in the following ways: The electrical wires run through metal conduit; the wires are twisted; all electronics are protected with foil shielding; and carbonized fishnet mesh covers the heaters for extra grounding and neutralization of the electrosmog.

SAUNA - NIACIN THERAPY PROTOCOL

PureBeing, Inc.

11015-9 Olson Drive

Rancho Cordova, California 95670

contact: Daniel Root, CEO & Senior Detoxinician

phone: 916-366-0999

website: getdetoxinated.com

Sweating out toxins, in conjunction with niacin which releases debris from the fat cells, the sauna-niacin protocol is probably the fastest—and safest—method of eliminating toxic metals, noxious chemicals, and even drug residues from the body. Along with daily sauna sessions, the protocol requires the ingestion of niacin (in increasing 100-mg amounts, either every day or every few days), along with polyunsaturated oils and activated charcoal, combined with exercise (or a substitute) to get the circulation moving. Supplementation with all vitamins and minerals (to replace electrolytes lost through sweating) is also mandatory. Many people report enormous benefits after only two weeks. Dan Root also offers long-distance coaching. If you have a sauna in your home, you can do the protocol.

TRANSCRANIAL DIRECT CURRENT STIMULATION (TDCS)

This deceptively simple (and gentle) Pulsed Technologies brain stimulation apparatus is applied with barely perceived electrodes. It's used to facilitate or inhibit neural activity in different portions of the brain, thus affecting a variety of behaviors, perceptions and brain processes. Improvements include: better memory; the ability to plan, make decisions and be motivated; better motor skills and learning (which includes math, music and other creative abilities); more focused attention; and insight. Athletes, musicians, artists, academicians, and people with Alzheimer's and Parkinson's use tDCS. Depending on where the electrodes are placed, this equipment also addresses pain management, depression, unwise risk-taking behavior (impulse control), and cravings. It is used for fibromyalgia, learning disabilities, migraines, insomnia, emotional problems, and even strokes. The company issues an enormous workbook, with hundreds of scientific references, that shows electrode placement and explains how and why the technology works.

For Pulsed Technologies contact information, see page 908.

I am writing to you on behalf of myself and my 6-month-old son. Up until about one week ago, we were completely and totally misinformed on the topic of vaccinations. Being a 21-year-old first time mom, I unfortunately was easily persuaded into vaccinating my healthy, 8 lb. 9 oz. son, once at birth, then again at two months, and again at four months. I was never once informed of any of the risks or negative outcomes of these shots, presumably because I am fairly young and the doctors see me as vulnerable and uneducated. I can only thank God above for protecting my son from the poisons that were injected into his clean, healthy body.

It literally makes me sick to think of how these medical "professionals" whisked my son away at the hospital when he was only one day old to give him his first dose of the hepatitis B vaccine. A short while later, he was then taken to have his heel pricked for a blood sample, and all the while the nurses falsely informed me it was California state law and that it was required for them to do so (absolutely not true), thus taking advantage of an innocent newborn and an exhausted, unaware mother. It scares me to death to imagine what could have happened to my precious son had I not come across this website.

After a lot of deep thought and concern regarding vaccinations, I began researching the topic via the Internet. To my shock . . . [most] sites promoted vaccinations and their "benefits." Intrigued, I thoroughly investigated your website and, without hesitation, began informing myself of my legal rights. I realized that vaccinations are just another way for the government to try and control and dominate our lives. Intimidation is their only weapon. If it weren't for the information you have provided me, I would be ignorantly taking my son in for his next set of shots, this week to be exact. However, this will not be the case. My husband, his sister, his father, and grandmother, etc., were never vaccinated . . . [and] they are some of the healthiest people I know. . . .

I ordered a copy of my state's laws and also a sample affidavit. To my pleasant surprise, I received the materials promptly [from you] within 48 hours, along with a catalog of other resources which will provide me with more information on this frightening subject. . . . I also strongly admire your unbiased view . . . It did not surprise me to read the angry letters from those uneducated people who oppose our views. . . . my son and I would really like to thank you from the bottom of our hearts. . . . What you are doing is truly a remarkable thing, and may God look down on you and continue to bless you with the strength and courage to keep us informed.

—Letter posted on Think Twice Global Vaccine Institute
www.thinktwice.com/love.htm

VACCINE INFORMATION

These organizations offer comprehensive educational materials on the genuine science behind vaccines and what's really contributing to global illness; negative immunization reactions in children and adults; how to identify individuals who are at great risk if vaccinated; parental rights vs. government interference; practitioners who respect one's right not to vaccinate; natural and holistic immunity protocols; and how to fight for one's right not to vaccinate amidst repressive vaccine legislation. Parents who do not want their children vaccinated may also find medical or religious exemption forms on the websites. Some groups produce conferences and offer resources for countries outside the United States.

Children's Health Defense

website: childrenshealthdefense.org

This fantastic non-profit advocacy group is founded and led by attorney Robert F. Kennedy, Jr. From the website: "Its mission is to end childhood health epidemics by working aggressively to eliminate harmful exposures, hold those responsible accountable, and to establish safeguards so this never happens again."

Global Vaccine Awareness League

website: gval.com

Informed Consent Action Network (ICAN)

website: icandecide.org

National Vaccine Information Center

21525 Ridgetop Circle, Suite 100

Sterling, Virginia 20166

phone: 703-938-0342

fax: 571-313-1268

website: nvic.org

This consumer-led organization advocates for vaccine safety and informed consent protections, doing public education in the hope of preventing vaccine injuries and deaths. The website states: "We support the availability of all preventive health care options, including vaccines, and the right of consumers to make educated, voluntary health care choices."

Think Twice Global Vaccine Institute

PO Box 9638

Santa Fe, New Mexico 87504

website: thinktwice.com

Vaccination Liberation**Ingri Cassel, Director****PO Box 235****Hayden, Idaho 83835***website:* vaclib.org

The website states that the goals of this group are “To reveal the myth that vaccines are necessary, safe and effective; To expand our awareness of alternatives in healthcare; To preserve our right to abstain; To repeal all compulsory vaccination laws nationwide.”

WATER PURIFICATION / TREATMENT**AquaTru™, LLC****1392 Sarah Place, Suite B****Ontario, California 91761***phone:* 800-993-9651

800-220-6570 (customer service)

website: aquatruwater.com

This portable reverse osmosis unit removes fluoride as well as other contaminants. It wastes far less water than other RO units, and the water tastes sweet.

Tuning Element™©**1440 State Highway 248, Suite Q, BOX 435****Branson, Missouri 65616***contact:* Sean Martinez, founder and director*phone:* 417-973-0000*website:* tunedbottle.com

No matter what electromedical modalities or nutritional supplements you take, body tissues that are dehydrated will not be in optimal health. This company makes unique water bottles (glass or stainless steel) that are permanently imprinted with frequencies, and will structure any water poured inside of them in just one minute. “Before” and “after” photos of water (using Masaru Emoto’s methods) indicate that it is indeed structured: amorphously shaped water molecules assume lovely crystalline shapes. The water not only tastes better and sweeter, but if left in the containers for even a few days, it will not spoil or smell rancid.

Cell Wellbeing Hydration App*website:* <https://app.cell-wellbeing.com/EZwater>

In today’s world, the majority of people own mobile (cell) phones. Although convenient, these phones emit high levels of dangerous electrosmog. Therefore, imagine using your phone to emit frequencies that heal, rather than harm, “by harnessing quantum-mechanic technologies with biophotonic frequencies” according to the Cell Wellbeing website. Made for all makes and models of cell phones, the Hydration App utilizes proprietary cutting-edge technology that essentially turns your phone into a portable frequency unit. Administered through the flashlight function on the phone, the hydration app structures water and any other liquid. In structured liquids, the angles of the hydrogen and oxygen molecules are changed and the water becomes “wetter.” It enters and leaves the cells and tissues more easily, thus better hydrating the system and assisting in waste removal. This structuring is evidenced with “before” and “after” photos (similar to those shown from the experiments of Masaru Emoto), in which amorphously shaped water molecules assume lovely crystalline shapes—with corresponding healing properties of absorption and hydration. Per research from Dr. Gerald Pollack, bulk water becomes “EZ” (exclusion zone) water. Water, coffee, juice, tea, and other liquids become smoother and have a sweeter taste. Put into a spray, the water energizes one’s energy field and body; put into a face cream, the product energizes the skin, improves absorbability, and may even help prevent wrinkles (discussed in more detail in Appendix C). Also see pages 901 and 952 for information on the electrosmog-harmonizing L.I.F.E. App.

WEB and INTERNET TOOLS

The world wide web was created about fifty years ago by the United States government to allow scientists and researchers to communicate and share data with each other. No one expected the Internet to become so popular that one-third of the world now uses it regularly. However, the Internet is neither uncontrolled, uncensored, nor private. Browsers, search engines, and Internet providers track the locations of computers, track websites that people visit, and track items that consumers purchase—only to provide this data to third parties, including governments. Chrome, a browser created by the company Google, scans the documents of whatever computer uses it. Google (among other search engines) is extremely biased in its search parameters, offering websites that further its own agendas. This heavily impacts on holistic health, because when someone conducts a search for holistic protocols, Google selectively displays websites unfavorable to holistic medicine and provides websites favorable to establishment medicine. Moreover, Google and Microsoft sell user information and provide data to third parties.

Social media is no better because it’s all governed by “big tech.” Facebook, Twitter, and other sites instantly remove comments they don’t want to hear and remove entire accounts, under the guise of preventing “hate speech” and protecting the public from “false information.” YouTube (a popular video site owned by Google) is also heavily involved in censorship, demonetizing channels or eliminating entirely the accounts of those with whom it disagrees.

All of the above media follow similar agendas: Disempower people by limiting access to information; encourage everyone to think the same by punishing dissenting views; and control people by forcing them to rely on one centralized authority.

Below are alternatives to what many people are accustomed to using. The browsers, egroups, search engines, social media, and video channels were created by teams of computer experts who value privacy and have generously gifted the world with their products. Be aware, however, that in today's rapidly changing world, what was private and truly independent may change; so keep up to date by doing your own research.

Browsers (secure)

www.epicbrowser.com

The website states that this "private and secure web browser blocks ads, trackers, fingerprinting, cryptomining, ultrasound signaling and more. Stop 600+ tracking attempts in an average browsing session. Turn on network privacy with our free VPN (servers in 8 countries). We believe what you browse & search online should always be private. In incognito mode, you're still being tracked. Join over one million users who've chosen privacy. For Mac & PC."

www.brave.com

From the website: "Three times faster than Chrome. Better privacy by default than Firefox. Uses 35% less battery on mobile!" It blocks ads and trackers and lets you know how many have been blocked to date, along with how many minutes have been saved due to higher computer efficiency.

eGroup Hosting (secure)

www.groups.io

As of this writing, groups.io was the only available egroup host that offers a modicum of privacy. However, the owner has made a few stipulations regarding allowable content, and there is a bias stated toward those who are "anti-vaccine." I have personally found that messages in private groups that contain information will probably be posted as long as a perceived "anti-vaccine" message is not stated in the header.

www.signal.org

This doubles as a private group hosting platform and a private social media site. Encrypted voice/video calls can be made using Signal. Users can also set messages to self delete.

www.brave.com

Brave is a browser, but it also doubles as a search engine if you type keywords into the space at the top of the page.

Email (secure)

www.preveil.com

www.protonmail.com

Based in Switzerland, ProtonMail is a free, open source, encrypted email service founded in 2014 at the CERN research facility by Andy Yen, Jason Stockman, and Wei Sun. They write: "We are scientists, engineers, and developers drawn together by a shared vision of protecting civil liberties online. Our goal is to build an internet that respects privacy and is secure against cyberattacks." ProtonMail uses client-side encryption to protect email contents and user data, in contrast to other common email providers such as Gmail (from Google) and Outlook.com.

www.hushmail.com

www.tutanota.com

Search Engines (secure)

www.duckduckgo.com

www.dogpile.com

www.startpage.com (looks like Google but isn't)

Social Media (not censored)

www.brighteon.social

www.telegram.com

Video Channels (not censored)

YouTube, Facebook, and other high-profile Internet media are banning public figures in the field of alternative health, politics, and other fields that criticize and dismantle mainstream lies. In response to this censorship, Mike Adams of Natural News created an alternative, BrightEon, to give a voice to people with different points of view (you can apply for a channel). You may disagree with the viewpoints of some of the contributors; but if you want to respectfully share yours, Adams won't prevent you from voicing it. The other platforms have voiced similar goals.

www.bitchute.com

www.brighteon.com

www.dailymotion.com

<https://sta.d.tube/>

www.rumble.com



Legal Implications of Rife Sessions

*It is no measure of health to be well adjusted
to a profoundly sick society.*

—J. KRISHNAMURTI, PHILOSOPHER AND SCIENTIST (1895–1986)

NOT FOR MEDICAL USE, PERIOD

Of all the questions that I have been asked about Rife Therapy, one answer that involves considerable elaboration is why it's not legal to provide Rife Therapy to others. This Appendix has been written for licensed health practitioners, people in the healing arts field who are unlicensed or who are not required to be licensed, and laypersons who want to share Rife Therapy with others. Please understand that I am not a lawyer. To write this, I did consult an experienced attorney and a manufacturer of frequency equipment who is versed in the law. However, what follows are only some *general concepts*. Legal matters can be complex, and laws differ from place to place. Therefore, I urge you to do your own research, and if necessary consult an attorney about the laws pertaining to where you live and work. I will be mainly discussing the legal climate in the United States. If you live outside the US this information may not apply to you, so please seek advice from a legal expert in your own country or municipality. Also, laws can change. What follows is the legal situation in the US at the time of this writing.

The foremost point to remember is that Royal Rife's technology was never approved for medical purposes. This means that *Rife Therapy is illegal to use for treating or curing any disease or medical condition*.

YOU CANNOT BE A "RIFE THERAPIST"

It's against the law to provide Rife Therapy for other people if you're using a rife machine to treat, manage, handle, reverse, cure, or otherwise deal with a disease or a medical condition. This is true whether you are a licensed health practitioner, an unlicensed person in the health field, or a layperson.

Some people who offer Rife Therapy to sick people—for the purpose of treating, managing, handling, reversing, curing, or otherwise dealing with a disease or a medical condition—believe that it's legal to charge for these services, or even give them away for free, if they make the disclaimer that they are not medical doctors and are not diagnosing, treating, or prescribing for a disease. They also believe that if a client signs a disclaimer, this absolves them from liability. *This isn't true*. If you are offering sessions to treat or cure a disease or medical condition, *even if you're not charging for it*, you are breaking the law. Take medicine out of the equation! Practicing medicine without a license is against the law.

A licensed health care provider who offers Rife Therapy as a medical treatment is in danger of being censured or fined by their medical licensing board. They are also in danger of losing their license to practice medicine. This is discussed more fully on page 915.

It's not legal to use Rife Therapy for medical purposes.

How Medical Licensing Started

In the so-called civilized world, laws restricting or regulating health care treatment arose with the existence of “special interest” groups that wanted ownership and dominion of treatment. In pre-industrial Europe, health care practitioners were mostly women who were herbalists, midwives, and counselors. In the 12th century, allopathic medicine was established with the help of universities. The peasant healers were seen as competitors to the male doctors, even though these rural practitioners were often the only health care providers for poor people who couldn’t afford the fees charged by the growing allopathic medicine business.

As the medieval Church rose to power, its money and psychological clout, combined with the money and military power of royalty, created the witch hunts that lasted for centuries. The witches were accused “not only of murdering and poisoning, sex crimes and conspiracy,” write the authors of *Witches, Midwives, and Nurses: A History of Women Healers*, “but”—in an eerie forecast of what would occur centuries later—“of helping and healing.” They quote a leading British witch hunter of the time:

For this must always be remembered . . . that by witches we understand not only those which kill and torment, but all Diviners, Charmers, Jugglers, all Wizards . . . which do not spoil and destroy, but save and deliver . . . It were a thousand times better . . . if all Witches, but especially the blessing Witch, might suffer death.¹

The ruling powers didn’t just persecute the healers from the lower peasant classes. In 1322, a literate and trained woman named Jacoba Felicie was brought to trial by the Faculty of Medicine at the University of Paris for “illegal practice.” Despite the appearance at her trial of six clients who swore that she had cured them after the state-sanctioned doctors had failed, Felicie was charged with a crime. There were many similar trials of other healers, mostly women.

The parallel today is striking. “Alternative” doctors treat thousands for so-called terminal illnesses using methods not approved by the licensing boards, and then despite (or rather because of) their excellent track record they are prosecuted for the crime of helping people get well. In the middle ages, the rationale for witch hunts was based on religious dogma. In modern times, the rationale is said to be based on science. In reality, it’s all based on hysteria. This is how our health care system has come to be based on hierarchy and domination. Today, the strongly entrenched power elite still tries to prevent people from making their own decisions about what kind of health care to use.

NO EXCUSES, IT’S AGAINST THE LAW

Licensed Health Care Providers

Whether you are a medical doctor, a dentist, naturopath, chiropractor, osteopath, massage therapist, psychologist, acupuncturist, nurse, or other practitioner, if you use Rife Therapy to treat a medical condition, it’s against the law. *This applies whether you charge for sessions or offer them for free.* Even if you provide services “off hours,” you still have a medical license. You must obey the rules of your licensing board at all times, or risk losing your license.

That said, there are several exceptions. One is from the FDA itself: You are allowed to use laboratory equipment and modify it for your practice, *as long as the use is responsible and is not being offered for medical purposes.* A frequency generator is standard laboratory equipment! See Chapter 4, page 588, for more details. Other exceptions are discussed on page 917.

Unlicensed Persons in the Health Field

Whether you are an unlicensed or de-licensed physician, a doctor from foreign shores who can’t use their degree elsewhere, a Reiki master, Life Coach, chakra balancer, or other “alternative” practitioner, if you use Rife Therapy to treat a medical condition, *it’s against the law. This applies whether you charge for sessions or offer them for free.* If, however, you state that you are “balancing the chakras” of your client, you *might* be able to offer sessions (see **How Did We Get Into This Mess?**, next page). It depends, sometimes on arbitrary law enforcement standards, and sometimes on whether or not you are considered a threat to the medical establishment.

Keep in mind that it’s irresponsible, unethical, and harmful to see clients with serious medical conditions such as cancer or Lyme. In such cases, rifting could actually make them worse. People with cancer should rife every day or else the cancer may mutate and spread. They should be medically supervised. And they should have their own frequency equipment so they can give themselves sessions as needed. Don’t play doctor. Be appropriate.

If you do decide to offer Rife Therapy to others at no charge, *you must not advertise that the sessions are for a medical condition*, because then you will be breaking the law.

Laypersons

Whether you are charging money for your time or offering sessions for free, all of the rules for unlicensed persons in the health field apply. Please read them carefully.

HOW DID WE GET INTO THIS MESS?

America (which was colonized after the British stole the land from the Natives who lived there) obtained its legal system from British law. British law sprang from the “divine rights” of kings, who exercised absolute dominion over everyone else. In Britain, there were two kinds of courts: the King’s courts, or courts of law, and the Church’s courts, which were referred to as courts of equity and had under their jurisdiction whatever the King decided he did not want under his own domain.

The King’s word was the stronger of the two courts. Any behavior was legal except for what the law (the King) explicitly stated was illegal. Therefore, if the King proclaimed “you must not do this,” whatever he proclaimed one must not do, was by definition a crime. What the King called crimes were any acts that directly affected him, such as not paying taxes to the Crown.

The courts of the Church governed all acts that were not expressly forbidden by the King. These acts were not considered crimes, even though they might negatively affect people. If two men had a fistfight, this was between the parties involved and did not involve the King. Thus their behavior came under the Church’s jurisdiction. That is why it was equity law instead of criminal law.

In the United States, what had been the King’s courts in England were now the criminal courts. When charges are brought against someone in a criminal court, the documents always read “The state versus so-and-so [a person].” What had been the Church’s equity courts were now the civil courts. When charges are brought against someone in a civil court, the documents always read “so-and-so [a person, corporation, organization, government, etc.] versus so-and-so [a person, corporation, organization, government, etc.]”

There are other differences between criminal and civil law. Under criminal law, if someone commits a crime, s/he is innocent until tried by a jury of peers and proven guilty. Under civil law, one may be ordered by a judge to refrain from certain behavior until the trial. For example, if a midwife has been accused of practicing medicine without a license, a judge has the right to forbid her from further helping women give birth until she has her trial and receives a verdict.

When the US was formed, each state was like a separate country within the larger umbrella of the federal government. The federal government was formed for three purposes only: to provide for the common defense, regulate interstate commerce, and oversee the minting of money. Even though the federal government has become much more powerful than the founders intended, the remnant of individual statehood can still be seen today in

the lack of consistency in different states’ laws on the same issues, from divorce to local voting to medical licensing.

All of the recognized health care professions such as medicine, chiropractic, massage therapy, surgery, etc., are regulated by professional boards that are given power by their particular state to monitor and control their respective professions. The state boards operate legally in an area somewhere between criminal law and civil law.

The rules of one board can differ from the rules of another, depending on the states in which they operate. However, all state boards regulate the content of professional education. The boards set the rules under which the professionals may practice their duties. The boards issue licenses that allow the health care provider to practice in that particular state. And the boards have the power to *revoke* those licenses if they think that the professionals are behaving in a manner that the licenses don’t permit.

As long as a health care provider upholds for all patients a certain *standard of care* that has been determined by the state board, s/he is allowed to keep the license. When that standard of care is no longer upheld, the license is revoked. The rationale for this cancellation is that by deviating from licensing requirements, the professional is changing the standard of care for all *other* health professionals, and is thus *endangering the profession as a whole*.

State boards wield considerable power. They are allowed to revoke someone’s license without a jury trial anytime they want. The notion “innocent until proven guilty” does not pertain to a state board. Once someone’s license is revoked, the health care professional can no longer work in that field.

What constitutes standard of care? Health care licensing regulations vary, depending on the state. For instance, in the US, only licensed medical doctors are permitted to diagnose, treat, and prescribe for illness considered pathogen-based, such as malaria or scarlet fever. But the laws can vary greatly. In some states, nurse practitioners can diagnose, treat, and prescribe for certain illnesses. In some states, chiropractors may legally diagnose and treat skeletal and muscular disorders because these disorders are considered within their professional expertise—even though other states might disagree and impose strict limitations on *their* chiropractors. Similarly, in some states licensed massage therapists are forbidden to promote massage as improving “range of motion” (even though it often accomplishes this) because legally, only physical therapists are allowed to use this phrase. From a holistic viewpoint, these independent categories prevent quality care. Of course one would not want a physical therapist performing surgery—that’s what surgeons are trained to do—but much more healing would occur if practitioners

After the 1800s: AMA Influence

The American Medical Association (AMA) was founded in 1847 around two propositions: one, all doctors should have a “suitable education” and two, a “uniform elevated standard of requirements for the degree of MD should be adopted by all medical schools in the US.” In the days of its founding, AMA was much more open—at its conferences and in its publications—about its real goal: building a government-enforced monopoly for the purpose of dramatically increasing physician incomes. It eventually succeeded, becoming the most formidable labor union on the face of the Earth.

AMA’s initial drive to increase physician incomes was motivated by increasing competition from homeopaths (AMA allopaths use treatments—usually synthetic—that produce effects different from the diseases being treated while homeopaths use treatments—usually natural—that produce effects similar to those of the disease being treated). This competition did serious damage to the incomes of AMA allopaths. In the year before AMA’s founding, the *New York Journal of Medicine* stated that competition with homeopathy caused “a large pecuniary loss” to allopaths. In the same issue, the dean of the school of medicine at the University of Michigan railed against competition because it made treating sickness “arduous and un-remunerative.” Apart from reversing rapidly declining incomes, allopaths also wanted to rescue their public reputations, which quite reasonably suffered given their proficiency in killing patients through such crude practices as bloodletting (“exsanguination”) or mercury injections (poisoning). . . . The Massachusetts Medical Society opined in 1848 that physicians should be “looked upon by the mass of mankind with a veneration almost superstitious.”

“The curse of medical education is the excessive number of schools” [was said by] Abraham Flexner [in] 1910. To accomplish the twin goals of artificially elevated incomes and worship by patients, AMA formulated a two-pronged strategy for the labor market for physicians. First, use the coercive power of the state to limit the practices of physician competitors such as homeopaths, pharmacists, midwives, nurses, and later, chiropractors. Second, significantly restrict entrance to the profession by restricting the number of approved medical schools

in operation and thus the number of students admitted to those approved schools yearly.

AMA created its Council on Medical Education in 1904 with the goal of shutting down more than half of all medical schools in existence. . . . In six years the Council managed to close down 35 schools and its secretary N.P. Colwell engineered what came to be known as the Flexner Report of 1910. The Report was supposedly written by Abraham Flexner, the former owner of a bankrupt prep school who was neither a doctor nor a recognized authority on medical education. Years later Flexner admitted that he knew little about medicine or how to differentiate between different qualities of medical education. Regardless, state medical boards used the Report as a basis for closing 25 medical schools in three years and reducing the number of students by 50% at remaining schools.

Since AMA’s creation of the Council a century ago, the US population (75 million in 1900, 288 million in 2002) has increased in size by 284%, yet the number of medical schools has declined by 26% to 123. In terms of admissions limits, the peak year for applicants at US schools was 1996 at 47,000 applications with a limit of 16,500 accepted. This works out to roughly 64% of applications rejected. . . . AMA would likely argue that there’s nothing necessarily wrong with very high rejection rates. This is correct, except for the fact that these rates are being applied to pools of candidates who are cream-of-the-crop in quality and have put themselves through a very costly admissions process. . . .

AMA has built an impressive edifice, one that has completely insulated physicians from recessionary (“cyclical”) and until recently, technological (“structural”) unemployment. While decade in, decade out, recessions, depressions, consolidations, and (recently) outsourcing have dislocated millions of blue-collar, engineering, computer programming, and middle management employees from jobs and forced permanent career changes, physicians as a class have been almost completely immune. Unlike workers in most other industries, a competent, licensed physician with a clean record who remains unemployed despite months and months of search for work is unheard of in the US.

—Dale Steinreich, “100 Years of Medical Robbery”
Townsend Letter, October 2004

could become more interdisciplinary. However, laws circumscribe practitioners into their own tight niches.

The professionals who have the most leeway to practice in many areas, with no or minimal training, are medical doctors. This was highlighted by the case of a doctor in the state of Arizona who was, by law, allowed to perform cosmetic surgery on clients without training. Unfortunately, his lack of special training in performing surgery on the face cost several people their lives. On the other hand, most medical doctors are highly regulated as to what procedures they are allowed to offer for cancer. In the US, laws concerning cancer care are quite restrictive. Doctors can lose their licenses for treating cancer with anything other than chemo, radiation, and surgery. This leads us directly to a discussion about Rife Therapy.

Generally, in the US no health professional is allowed by a state board to use Rife Therapy for treating disease because the technology is not approved by the Food and Drug Administration. Should a doctor use it, s/he is performing a service that other doctors don't perform, and is therefore altering what the state medical board has determined is the standard of care. According to the state board, the doctor is now endangering the practice of other doctors. Because the doctor has violated the agreement with the state board that issued the license, the doctor has no protection in civil court if he or she is sued: the law has been broken, end of discussion. Thus the state board can revoke the doctor's license. And the board *will* revoke the license even if no legal action has been taken against a doctor by a client—and even if the person in fact wants, likes, has benefited from, or needs the treatment.

Remember the “hypocritical” doctor described in Chapter 6? Fear of having his license revoked may be why he received chelation therapy himself while telling his client that it was no good. This may explain why many doctors are quite secretive about their sympathy with (and participation in) modalities that are not FDA-approved. As long as state licensing boards so tightly control what health care providers can and can't do, as well as what they can and can't *say*, health professionals will be limited in their ability to help their clients.

Now you know why doctors, chiropractors, etc., don't administer rife frequency therapy. They may want to. They may in fact use it in their own homes for themselves, their families, and their pets. However, they dare not mention it to their paying clients—or even clients who aren't paying.

What about legal ramifications for the layperson? If, *for a fee*, a layperson performs a material service for someone else that makes them *feel better*—whether it's giving advice to take a relaxing hot bath to calm their nerves, selling them supplements, or even offering a glass of

water—*this may be construed as practicing medicine without a license*. Practicing medicine without a license is against the law and therefore a crime. (“Feeling better” has wide implications, but this is the law as it now exists.) Even if the layperson uses words like “support” and “restore balance,” these can still be *interpreted to mean healing of some sort*, which is practicing medicine without a license. Thus, various forms of “energy” work like chakra balancing or Rife Therapy—which are not approved for medical purposes—are legally forbidden. (Exceptions are discussed below.)

Laws that restrict the offering of services are not limited to payment. A suggested donation of any monetary amount, or even a non-cash donation such as a chicken or pair of free movie vouchers, is considered a fee. To give another scenario, in the state of Georgia, even if you don't accept payment, having a room in your home or office where people visit to receive (construed) “medical” services might cause trouble. Each state has different laws.

Someone upset by “practicing medicine without a license” might report someone. It's unlikely that the authorities would consider a chakra balancer threatening. This is because a chakra balancer is unlikely to earn enough money (or become famous enough) to threaten the livelihood of a physician. But if that chakra balancer successfully made people with “terminal” illnesses well, and was snatching business from disgruntled doctors, the authorities might be more inclined to arrest that person.

Not all laws are enforced all the time, and some laws are not enforced even most of the time. To my knowledge (using an above example), not many people have been arrested for accepting chickens in exchange for giving rife sessions. However, if the legal authorities wanted to, they *could* make arrests. One attorney told me that if all the laws on the books were enforced, over half the population would be in jail.

EXCEPTIONS

Some laws are unreasonable or impractical to enforce. For instance, some states forbid certain sexual contact between husband and wife. No one knows whether or not these laws are being broken unless a spy is in the bedroom or the couple tattles—and even then, it's doubtful that law enforcement would feel a need to prosecute. With laws that don't hurt others, when enough people routinely disobey them, they're eventually changed to reflect reality. This has happened in some states with the posted speed limit. When enough people drove 10 miles above the speed limit, the signs were changed to reflect the reality.

Under a few conditions (which vary between states), innovative learning or healing modalities may be legal. For instance, a religious organization might be created whose tenets (to use one example) involve the use of vibrational healing. Or, an educational foundation might be created to teach the theory and practice of vibrational healing. *However, such organizations must operate within the law.* There may be different criteria as to what constitutes *bona fide* educational, religious, or spiritual organizations. It's beyond the scope of this book to advise how that is done; and besides, laws vary. Consult a qualified attorney.

Now I want to focus on the legal aspects of offering Rife Therapy to others. It's *not* against the law for you to use rife equipment to experiment on yourself, on laboratory animals, and on microorganisms. There is also nothing illegal about a layperson sharing rife equipment with others *as long as s/he does not accept payment for it.* (If a licensed health care professional shares rife equipment with others—even if it's *not* for a fee—and the licensing board discovers this, the board can always say that the professional has violated professional licensing credentials. It's not as though the health care professional can remove the license as one removes a coat: s/he remains licensed at all times, even if s/he isn't formally conducting business.)

It's also *not* against the law to give talks or write about any aspects of Rife history technology. (The dissemination of information is protected by the First Amendment, which guarantees freedom of speech.)

What, then, are the chances that Rife Therapy will be legally approved for medical use in the US? Two major changes would have to take place. The FDA (or another agency) would have to approve it. And health care licensing boards would have to include rifting as part of their standard care. Meanwhile, if people want access to the technology, they can either receive treatment in countries where Rife Therapy is legal, they can borrow a machine belonging to a friend, or they can purchase their own unit.

People who are financially secure can easily buy a rife machine. But the average consumer—given the lack of government approval, media blackout, and the muzzling of sympathetic doctors by state licensing boards—may not know enough to even consider the technology. Here is the crux of the challenge. How can people feel comfortable with the technology unless they hear about it often, and in a positive way? And how can they gain repeated favorable exposure to the technology if a government agency doesn't approve it? In our culture, FDA approval is equated with effectiveness and safety—even though, as discussed in Chapter 1, legal sanction and effectiveness usually have nothing to do with each other.

Advertising consists of bombarding people with a message about a product so often, that once the message becomes entrenched in everyday awareness, the product is accepted as worthwhile or at least innocuous. Repetition works on the nervous system of human beings like a horse-drawn carriage traveling on a dirt road: the wheels create grooves in the road, so by the time other carriages come along, their wheels follow the same grooves because it's the path of least resistance. Continually receiving the same input restimulates and reinforces the original nerve pathways—and along with them, the original message. Then, what was once only an idea among many becomes the norm, something that's accepted without question.

When a healing modality is legalized, it becomes *safe by default*. Once it is legalized, it becomes familiar. As a familiar modality, it then becomes the *only* modality—and thus is considered the only *safe* one, regardless of its merit. Rife Therapy has not received much press compared to drugs or surgery. Thus, its lack of publicity automatically makes people doubt its safety. This in turn makes it harder to legalize. The fact that providing rife sessions for a fee is not legal also adds to the doubts about its safety. This generates more unfavorable publicity, or suppresses mention of the technology altogether in mainstream outlets. Thus the cycle continues.

There have been small victories, though. The California Health Freedom bill, in effect since January 1, 2003, made it legal to practice any unlicensed non-invasive therapy (including homeopathy) in California as long as certain guidelines are followed. One guideline requires the practitioner to inform the client of his or her background, and obtain the client's permission to use the therapy. In Arizona, anyone with a license in homeopathy is legally permitted to use Rife Therapy, which is considered an acceptable standard of care. Laws vary between states.

One way to help electromedical healing modalities gain medical, social, and political acceptance—and thus become legal—is to publicize them within the limits of the law. This *Rife Handbook* is my attempt to help in that wave of awareness.



ENDNOTES

Appendix B

LEGAL IMPLICATIONS OF RIFE SESSIONS

- 1 Barbara Ehrenreich and Deirdre English, *Witches, Midwives, and Nurses: A History of Women Healers* (Old Westbury, N.Y.: The Feminist Press, 1973), 10–11.



Healing with Electromedicine and Sound Therapies

The universe is wider than our views of it.

—HENRY DAVID THOREAU, AMERICAN NATURALIST AND AUTHOR (1817–1862)

INTRODUCTION

In the 1960s, counterculture hippies were urging us to give peace a chance (great advice). To expedite that process, it was helpful to have “good vibrations”—considered so important that the Beach Boys wrote a catchy song with this title. It was easy to tell who had good vibes and who didn’t. An optimistic, considerate person was considered “high frequency,” while a pessimistic, disagreeable individual was “low frequency.” Not surprisingly, everyone wanted to be around the folks who had good vibes.

Colloquialism aside, saying that someone is “high frequency” is based on legitimate science. Every molecule, cell, living body, and object is comprised of energy that manifests as physical matter. Some of that energy is detectible as frequencies that belong to one or more radiation bands in the electromagnetic spectrum. And these frequencies correspond to biochemical and biological processes in the body.

In the healing arts, there are different ways to affect matter. With conventional medical care, the chemical, functional, and/or structural change in organs, glands, and other tissues are created either through biochemical manipulation (drugs) or physical manipulation (such as surgery). With electromedical therapies, healing is achieved by working with the electromagnetic radiation

(emissions) and related energy fields that form, and are emitted by, physical matter. Basically, electromedical devices produce and focus specific frequencies that can be in the form of electromagnetic fields, electrical current, magnetism, visible light, heat, or other energy.

Although electromedicine is widely used in Europe, it is less known in the United States. Few people in developed countries would question the use of the ubiquitous transcutaneous electrical nerve stimulation (TENS) unit, which emits small amounts of electrical current to manage pain. And magnets embedded in the insoles of shoes, also for pain management, are now a regular item in consumer catalogues. But electricity and magnetism are still primarily used diagnostically—such as with the standard electrocardiogram (EKG or ECG) to assess the health of the heart, and with magnetic resonance imaging (MRI) to show the inside of the body. Most medical professionals, as well as the lay public, are not inclined to take advantage of less familiar electromedical devices because they don’t understand how they work. And those who do use the equipment might talk about “frequencies” or “energy” without fully understanding what these terms mean or knowing the science behind the technology.

Fortunately, receptivity to electromedicine is increasing. Health professionals are expanding their practice (and their success rate) with safe, holistic technologies. And the public is beginning to recognize

and request electromedicine as an effective and valid treatment modality. In this review, I'll explain what "frequency" and other terms mean as applied to the electromagnetic spectrum. I will explain electromagnetic energy in living systems, explore several types of electromedical modalities, and discuss the related modality of sound therapy.

ELECTROMEDICINE THROUGHOUT HISTORY

Healing with electromedicine is an ancient practice. Before we learned how to manufacture magnets of ceramic and metal, our ancestors discovered that magnetite, a mineral (which they called *lodestone*), emitted a magnetic charge. Placing it on the body reduced pain. We also harnessed naturally-occurring electricity for healing. Egyptian texts dated 2750 BC described deliberate exposure to electric eels and torpedo rays, ocean animals that could administer electric shocks. The shocks could be therapeutic, providing they didn't cause serious damage first. In addition to static electricity (friction) and magnetism (lodestone), we used the sun (for its far infrared and ultraviolet radiation), visible light (for its different colored wavelengths), and sound, along with other energies as well.

These early electromedical therapies may have been based on natural phenomenon, but as we learned to harness and replicate the naturally-occurring energies, they became manageable and measurable. By the 1900s, when electrical power was common in the home as well as the workplace, electrical devices invented for medical treatments were considered mainstream. In *Electrotherapy and Light Therapy with Essentials of Hydrotherapy and Mechanotherapy*, published in 1949, Richard Kovács describes an impressive array of electricity-run equipment, most of which had already been in use for half a century. Among other technologies, this equipment utilized alternating current, direct current, low frequencies, high frequencies, static electricity, diathermy, infrared rays, ultraviolet rays, and ultrasonics. Modern electromedicine practitioners will recognize some of these devices as forerunners of those used today—if not *the* machines still being used, as some devices haven't changed much in a hundred years. Some of this equipment included Georges Lakhovsky's multi-wave oscillator, the Violet Ray (which utilized Nikola Tesla's coil), and Edgar Cayce's Wet Cell. Dr. John Harvey Kellogg's Electric Light Bath (or Electric Light Cabinet)—which used light bulbs invented by his friend Thomas Edison—was a very popular forerunner of our modern far infrared sauna.

The conditions that these devices were used to manage or eradicate were virtually unlimited: muscular aches and pains, skin conditions, gynecological problems, some heart conditions, respiratory ailments, gastrointestinal disorders, acute and chronic infections, and degenerative diseases.

Given the variety of such equipment almost a century ago, what seems remarkable today is not the abundance and range of devices, but the resistance to electromedicine by both the public and the medical profession. Of course, the vilification of these therapies by the medical mainstream—and laws passed to suppress the use of such devices—drove these modalities out of the public's immediate consciousness. Electromedicine as a valid treatment modality has met with derision and skepticism from practitioners and laypeople alike. However, the body clearly responds to electromagnetic energies. If all sorts of electrical, thermal, magnetic, and sound-based devices are used for testing, why can't they be used for healing?

As might be expected, the pharmaceutical industry has taken advantage of people's ignorance and resistance to any modality that seems new and strange, for if the benefits and track record of electromedical devices were widely publicized, drug companies would lose billions of dollars each year. Likewise, mainstream media doesn't make an effort to educate consumers because it depends on considerable advertising revenues from drug companies.

Unlike a drug, which can be used just once by one person, and is intended for a single condition, the electromedical modalities that have emerged in the last century:

- ◆ Are non-invasive.
- ◆ Support the body's innate ability to heal, instead of substituting for its natural functions.
- ◆ Are fairly easy to use, by laypeople as well as health professionals.
- ◆ Can be utilized over the course of a lifetime (because they address many conditions).
- ◆ Can be used for more than one person.
- ◆ Are relatively inexpensive, considering their range and scope.

How and why do electromedical devices work? Whether you're a health care provider or a seeker of health services, understanding the science behind electromedicine can make the difference between discerning good vibrations from bad. The best place to start is with an overview of discussion of the EM spectrum and its related component, sound.

THE ELECTROMAGNETIC SPECTRUM

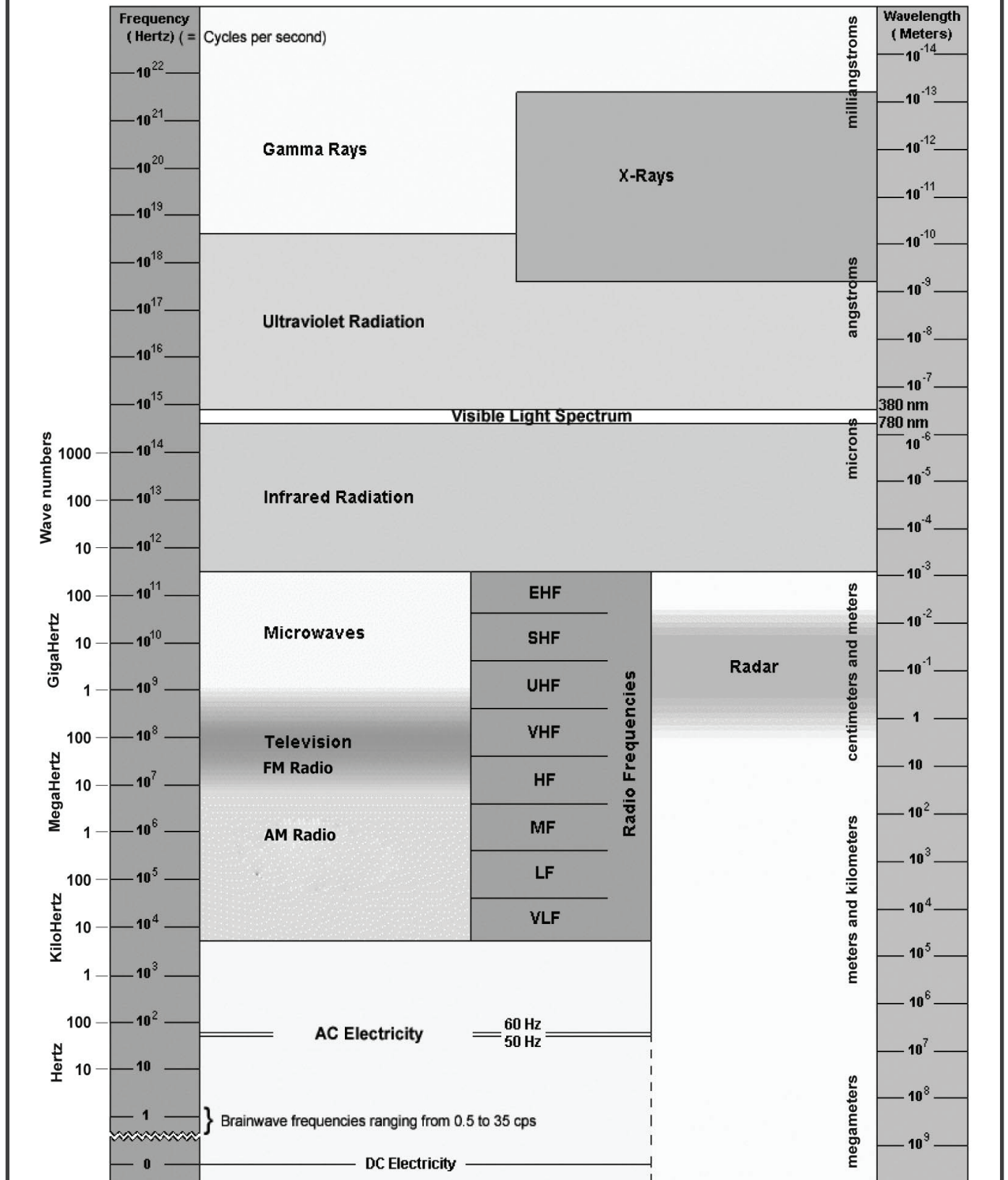


Figure 1: The Electromagnetic Spectrum

THE ELECTROMAGNETIC SPECTRUM

Defined by Its Effects

The electromagnetic spectrum (or EM spectrum, sometimes also called EM waves) is the term used for many of the different energy oscillations that comprise our known universe. As shown on the chart of the EM spectrum (see Figure 1, previous page), we can create these different oscillations with various electrical devices and some non-electrical (passive) materials, and produce tangible physical phenomena. For example, we access frequencies on the radio spectrum with an antenna, which transmits and receives radio broadcasts. We do something similar for TV broadcasts. An X-ray machine utilizes certain radiation on the X-ray band, which allows us to see inside the body. We use specific portions of the infrared band for heating saunas, and so on.

Frequency, Wavelength, and Amplitude

All the energies in the EM spectrum have different frequencies. The term *frequency* pertains to the number of cycles per second (CPS) at which a wave vibrates or moves. (The term “CPS” is considered archaic and has now been replaced with hertz, abbreviated Hz, named after 19th century German physicist Heinrich Hertz who worked with electromagnetic waves.) Waves also have different sizes or lengths, with various terms such as *micron*, *angstrom*, *nanometer*, and *meter* used to measure the length. See Figure 2, below. (The waves shown here are sine waves; different shaped waves will be discussed later.)



Wave is a *movement of energy* along a directional axis.

Frequency is a *rate of oscillation* measured by the number of wave cycles per unit time (usually in hertz).

Wavelength is the *length* or *distance* between two identical points on the wave (which comprises one complete wave cycle). The size of the wave determines what term of measurement is used.

Amplitude is the highest point on the wave. This corresponds to the *maximum intensity* of the signal, comparable to turning up the volume on a radio.

Figure 2: Key EM Wave Definition

Now see Figure 3. The peak of the wave is the highest point on top. The trough of the wave is the lowest point on bottom. The length of a wave is often measured peak to peak (see arrows). Technically, however, any portion of the wave can be used as a reference point, as long as the measurement assesses one complete cycle (peak to peak, trough to trough, etc.).

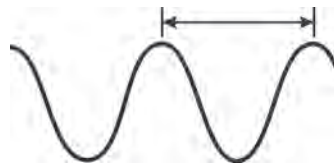


Figure 3: Length of One Wave Cycle

As the number of waves within a given space—in other words, their *frequency*—increases in number per second, their size becomes *smaller*. And as the number of waves *decreases* in number per second, their size becomes *larger*. Put another way, the *higher the frequency* or oscillation rate of a wave, the *smaller the wavelength*. The *lower the frequency* or oscillation rate of a wave, the *larger the wavelength*. “A homely comparison to visualize this,” Kovács analogizes, “may be a motley army of giants and dwarfs, all under orders to reach the same goal simultaneously; in order to do so the giants step out leisurely, while the dwarfs run and take hundreds of steps for each one of the giants.”¹

In Figure 4, the frequency of the top wave is higher than the frequency of the bottom wave, because the distance is shorter between the peaks of the waves. The waveforms in this example are simple *sine* waves.

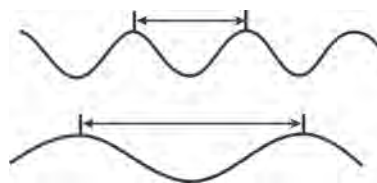


Figure 4: Comparing Two Frequencies

In order from slower-moving to faster-moving, frequencies in the EM spectrum include radio waves, microwaves, infrared light, visible light, ultraviolet light, X-rays, and gamma rays.

EM Radiation vs. EM Fields

So far, I have been discussing electromagnetic radiation from the EM spectrum. Electromagnetic *radiation* (radiant energy) and electromagnetic *fields* (non-radiant spaces in which energy exists) operate somewhat differently. Both come from electromagnetic sources. However, energy that *radiates* exists separately from its source. It travels away from its source, and it continues to exist even if the source is turned off. EM *fields* are not projected out into space. They no longer exist when the energy source is turned off.

Now let's take a look at the EM spectrum's offspring, electric fields and magnetic fields.

Electric Fields and Magnetic Fields

The existence of an EM field includes both electric and magnetic fields. Electrical and magnetic fields can be separated from EM fields as their own distinct energies. You might consider electricity and magnetism to be subsets of electromagnetic energy. An EM field has certain properties, electrical fields have other properties, and magnetic fields possess yet others.

Electricity and magnetism share a complex and intimate relationship with each other. An oscillating electric field generates an oscillating magnetic field, and an oscillating magnetic field generates an oscillating electric field. Each exists at right angles to the other. When *movement* is introduced to *either* a stationary electrical field *or* a stationary magnetic field, the emissions induce *electromagnetic* fields in biological organisms (humans or animals) that are exposed to such fields. I'll elaborate on this shortly, as it's an important point when discussing various electromedical devices.

Electricity

For the purposes of this discussion, we can define electricity as a flow of electrons around a circuit. The charged particles involved in electricity are called *electrons*. They move through a network of *conductors*, or channels that conduct or move them. Electricity has several forms. It can build up in one place as static electricity, for example when you run your feet over a carpet. More commonly, electricity flows from one place to another as current, like water flowing in a river.

Electrical charge can flow in a continuous smooth line, or back and forth. With direct current (DC), the electrons always flow in the same direction, from a point of origin to the final destination. With household alternating current (AC), the electrons reverse direction about 50–60 times each second. All electrons move back and forth very short

distances, pushing against adjacent electrons and causing them to move. This “back and forth” AC movement of electrons generates electricity much more efficiently than the “straight line” DC movement of electrons, but it's very jarring to the nervous system. Most of the world's electricity runs on AC, rather than DC. Batteries provide direct current. Some electromedical devices convert the AC to DC. Most electromedical equipment runs on AC, but their therapeutic properties far overshadow the effects of the AC that powers them.

Magnetism

All magnets possess two sides or distinct fields, to which we give the names *north pole* and *south pole*. As with electrical charges, unlike poles (north and south) attract each other, and like poles (north-north or south-south) repel each other. If even a sliver is sliced off a magnet, there will still be a south and a north pole at either end. Earlier I discussed how magnetism and electricity are related. The authors of *Magnet Therapy* address the movement of electrons in magnets:

Magnetism is not a characteristic confined to iron, or even to metals. It refers to electrons that are orbiting around their atoms. Electrons have a property called spin, which makes them act like miniature magnets with a north and south pole. If you force a lot of neighboring electrons in anything to spin so that their poles are aligned in the same direction, you can make it magnetic. Iron is very easy to magnetize because it has lots of surplus electrons hanging around that will readily line up any way you want them to.²

Briefly, what's commonly called the north pole of a magnet sedates; and what's commonly called the south pole of a magnet stimulates. I'll address this later when focusing on therapies.

Sound

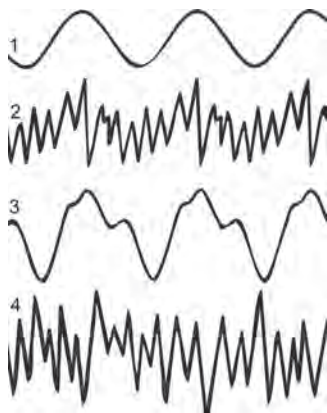
The EM spectrum is often compared to sound, since the two phenomena share many of the same features. Sound is comprised of *mechanical pressure waves* in a compressible medium such as air or water. Put another way, sound is created when an object moves with enough force to displace (compress) the surrounding air (or other medium capable of carrying these waves). We hear many of these waves (air currents) as audible frequencies (sound), because after the air reaches the ear, it minutely moves the eardrum—a delicate drum-like membrane—and sends the oscillations to the brain, where they are

then decoded into traffic noise, music, spoken words, the barking of a dog, and so on. The waves of sound could be created by a pen dropping on a desk, someone's vocal cords moving during speech, or a violin string being plucked.

The frequency of a wave (expressed as cycles per second) that applies to the EM spectrum also applies to music, a subset of sound. The pitch of a note depends on its frequency. A *lower frequency*, or an oscillation rate of *fewer* Hz, is *slower-moving* and produces a *lower tone*. A *higher frequency*, or an oscillation rate of *more* Hz, is *faster-moving* and produces a *higher tone*.

The waveforms of *music* on an oscilloscope show organization, with obvious patterns.

The waveforms of *noise* on an oscilloscope show disorganization, with no discernable pattern.



Music = Symmetry

1. **Tuning Fork.** Very pure sound; prongs vibrate regularly.
2. **Violin.** Bright sound, angular waveform. Same pitch as tuning fork: peaks of the waves are the same distance apart and pass at the same rate as those produced by the tuning fork.
3. **Flute.** Playing same note as first two. Purer sound than that of the violin, so its waveform is more rounded.

Noise = Asymmetry

4. **Cymbal.** Irregular patterns and jagged, random waveforms, no discernible pitch. No regular pattern of peaks and troughs.

Photo courtesy of, and text adapted from,
Dorling Kindersley Encyclopedia

Figure 5: Comparing Music and Noise Waveforms on an Oscilloscope

Frequency can be more easily understood and perceived with music than with random sound (noise). Noise—as well as some harsh electronic music—is comprised of *disorganized waveforms*. This disorganization manifests acoustically as indistinct, muddy pitches. Music, on the other hand, is comprised of *organized waveforms*. This organization manifests acoustically as distinct, discernible pitches. The difference between music and noise can be seen on an oscilloscope—a testing device that shows visually what we hear acoustically—with real-time pictures of waveforms; see Figure 5. In the examples of music, all instruments are playing the same note.

Noise or random sound on the oscilloscope appears as irregular waveforms, while music or pure tones appear as regular waveforms. For most people, the acoustic and the visual correlate: music is more pleasing than noise to the ear, and regular waveforms are more pleasing than irregular waveforms to the eye.

Different Shapes of Waves

As illustrated in the diagram of notes played by various instruments, waveforms have different *shapes*. Figure 6 shows some common ones in their simplest form.

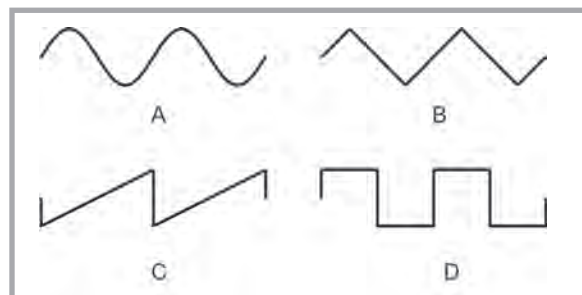


Figure 6: Waveforms.

(A) Sine; (B) Triangle; (C) Sawtooth; (D) Square

More complex organisms contain more frequencies and possess more complex waveforms. A useful analogy between simple and complex forms is the difference between plucking a single string (which represents a simple organism like an amoeba) and playing an entire orchestra (which represents a complex organism like a human being).

The various shaped waves also have different functions. Using the analogy of music, the sine wave is a simple, single tone, whereas the square wave contains many harmonics. A *harmonic* is an additional wave pattern produced by the fundamental or main frequency. As secondary wave patterns, harmonics are not as strong as the fundamental frequency that produces them. Harmonics are created similar to the way ripples are produced when you drop a pebble into a pond. The fundamental frequency is the

indentation in the water where you dropped the pebble. The water rippling out in circles is the harmonics. The lines produced by the original pebble toss get fainter and fainter, as do the harmonics.

There's a finite amount of energy with any given signal. Harmonics utilize energy. The power available in harmonics decreases as the multiplication factor increases, just as the ripples closest to the pebble are strongest, and fainter on the periphery. Each harmonic drops off in amplitude (power) as the wave travels away from the main signal. So, since there's a fixed amount of energy for both the fundamental frequency and its harmonics, the signal is dissipated.

Harmonics can be useful in certain therapeutic applications. Depending on the electromedical device being used and the particular effect desired, one might decide to use a square wave, which is rich in harmonics, or a sine wave, which is a stronger, single tone.

Symmetry and Asymmetry: The Language of Math and Music

The symmetry of music and the asymmetry of noise can also be described *mathematically*. Mathematically, sound is comprised of random frequencies that have *little or no relationship* to each other. Mathematically, tones or music are comprised of frequencies that *do* have relationships to each other. (A single, true tone will naturally be in symmetry with itself.) The absence of certain mathematical relationships in sound and the presence of those relationships in music explain why sound can irritate the nerves and music can calm them.

Although EM fields and sound transmit frequencies in different ways, the mathematical measurements representing the relationship between electromagnetic frequencies are the same as for music. Put another way, the harmonic relationships of each system are governed by identical mathematics. The frequencies of musical tones and the EM spectrum exist in octaves, higher harmonics, and lower harmonics of each other. Both musical tones and EM spectrum frequencies have mathematical relationships to some of the other frequencies that are higher or lower. For example, a frequency that is multiplied or divided by two produces a higher or lower *octave* of itself.

Like sound, EM fields possess symmetry and asymmetry. Various electromedical devices can detect the equivalent of either noise or music in the oscillations of cells and tissues in the body. When the oscillations are *not mathematically harmonious* (which corresponds to noise), there is *disease and degeneration*. When the oscillations are *mathematically harmonious* (which corresponds to music), *the cells function optimally and correctly*.

Pulsed Magnetic Field / PMF

Some equipment induces *movement* in a stationary magnetic field for therapeutic purposes. The magnetic field is created by the movement of electrons through a wire. When this current flow is regularly interrupted, it's referred to as *pulsed*. This is where the phrase *pulsed magnetic field* comes from, commonly abbreviated *PMF*.

Pulsing a wave means that the signal is on for a given period, then off, then on, then off, etc. In Figure 7, the bottom line shows a “lag time,” or interval when the wave is at rest, before it resumes its upward-moving cycle.

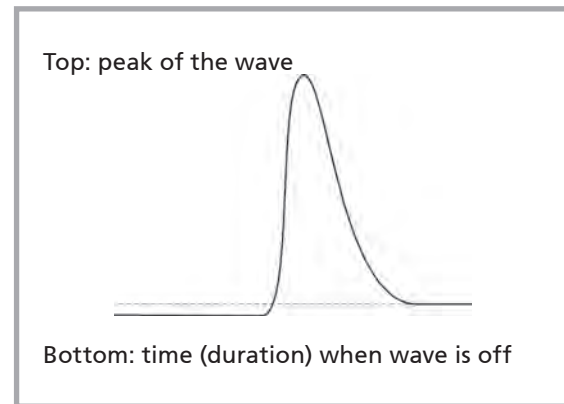


Figure 7: Wave Lag Time

Figure 8 shows two waves in succession. Here, the “lag time” or rest (or pause) interval between the waves is easily seen. (The trough of the wave has been truncated.)

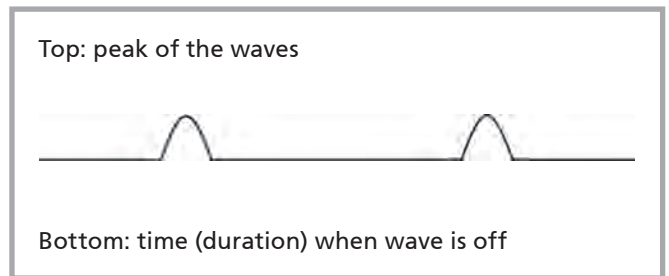


Figure 8: Two Waves

How close the waves are to each other—along with the lag time between each wave—represents the frequencies that you're creating. For example, say you want the frequency 35 Hz. This means that in your PMF machine, the electrical current pulses the magnetic field on and off 35 times a second. For 2127 Hz, the magnetic field is pulsed on and off 2127 times a second. In this second example, the flat lines between the waves would be much shorter than with 35 Hz. Theoretically, any frequency can be created by pulsing a magnetic field.

These pulsed magnetic fields, or PMFs, can produce highly therapeutic results. Some electromedical devices using PMFs will be discussed shortly.

THE ELECTROMAGNETIC BODY

Energy in Living Systems

Historically, most cultures have erroneously regarded the body solely as a mechanical and biochemical organism. However, every cell in the body is a transmitter and receiver of electromagnetic information. The following are examples of how animals, plants, and human beings receive, hold, transmit, and respond to EM fields:

- ◆ During migration, monarch butterflies, locusts, and even blindfolded birds navigate flawlessly. Salamanders and turtles also use magnetic fields to navigate. We now know that magnetite, a highly magnetic mineral, is found in the tissue and brains of insects, birds, reptiles, and amphibians.
- ◆ Bacteria use their magnetic sense to burrow deeper into the mud. We now know that magnetite is also present in bacteria and protozoa.
- ◆ Many kinds of fish are able to follow each other in organized formations (“schools”) due to the magnetic fields generated by the magnetite in their bodies.
- ◆ The whiskers of dogs, cats, and other animals are now recognized to function as antennas, due to their sensitivity to electromagnetic fields.
- ◆ In plants, the sharp points of leaves, as well as pine needles and the blades of some species of grass, act as antennas for electrical signals.
- ◆ Stingrays find food with their ability to detect normal, minute amounts of electrical discharge or magnetic fields emanating from their prey.
- ◆ Fish, dolphins, and whales use the Earth’s magnetic fields and sonar (sound) for navigation.
- ◆ The behavior of some animals has been used to forecast earthquakes for a long time. Cattle stampede, birds sing at the wrong time of day, mother cats move their kittens, snakes seek shelter. B. Blake Levitt writes: “It is now thought that [the animals] are reacting to changes in the Earth’s magnetic field, as well as to electrostatic charges in the air—long before the quake actually occurs or registers on even the most sensitive instruments.”³
- ◆ In humans, the sinuses, some other facial bones, the brain, and some bodily tissues contain magnetite.
- ◆ Melatonin, a hormone that (among many functions) helps induce sleep, is produced by the pineal gland only in darkness. We now know that the pineal, deep inside the brain in the skull, is exquisitely sensitive to light.

Both electric and magnetic fields applied to the body create biological changes. In his article “The Electrical Properties of Cancer Cells,”⁴ medical doctor Steve Haltiwanger describes how the body partly functions as a living electrical circuit. Various cells and tissues are conductors (allow for electron flow), insulators (inhibit electron flow), semiconductors (allow for electron flow in only one direction), capacitors (accumulate and store charge, later to release that charge), and so on. Cells transmit and receive energy, and each has its very own frequency with which it oscillates.

Not only is every cell in the body a transmitter and receiver of electromagnetic information, it is these various *electromagnetic frequencies that correspond to—and in fact, precede—biochemical functions*. For example, healthy cells oscillate at higher frequencies than do unhealthy cells such as cancer cells. The lower frequency of cancer both causes, and is reflected by, the aberrant biochemical reactions within the cell. Put another way, the biochemical differences between normal healthy cells and cancer cells correspond to the differences in the electrical properties of each. The same holds true for magnetic fields. Magnetic fields correspond to biological activity. A change in the magnetic field means a change in the cells, either beneficial or harmful.

Harmful Effects of EM Radiation and EM Fields

In the last century, medical doctor and stress pioneer Hans Selye observed that when bodily tissues are subjected to repeated, intense, negative input—whether chemical (environmental pollutants, adrenal “fight-or-flight” hormones) or mechanical pressure (bruising)—the body perceives it as stress. It responds by tightening the envelope of membranous fascia that surrounds the muscles. This, in turn, causes significant biochemical malfunctions, not the least of which is the disruption of the cell membrane. Other stressors that can disrupt cell integrity include the actual puncturing of the cell membrane, and microbial infection. Cell permeability for the proper materials is key. If glucose, other nutrients, and beneficial hormones cannot efficiently enter the cell, and if wastes cannot completely exit, pathogens proliferate and degenerative disease occurs.

To Selye’s list of stressors, I would add destructive EM radiation and EM fields. It has been known for decades that electrical fields can damage cells. B. Blake Levitt writes:

Direct current (DC) is the steady flow of electrons in one direction. Alternating current (AC) is an electron flow that changes strength and alters direction within a certain cycle;

the AC field collapses and reappears with its poles reversed every time the current changes direction. . . . Direct current creates a steady magnetic field. But with alternating current, each time the direction of the electrons is reversed, or flipped, a powerful magnetic field is created that fluctuates at the same frequency.⁵

Another reason these fields are dangerous is that the waves are *coherent*. Although the sun constantly transmits naturally-occurring radio frequencies, microwaves and other EM fields, this radiation is generally *diffuse*, whereas alternating current is *concentrated*. *Concentrated radiation is not natural*. For example, you need to purposely harness, focus, augment, and direct a bombardment of electrons to turn on a light bulb. These highly coherent, synthetic EM fields interfere with the body's signaling processes because they literally alter the DNA in harmful ways. Levitt points out:

The human race has never before in its evolutionary history been exposed to such fields on a continuous basis, and there are serious and mounting concerns about the effects not just on individuals but on our entire ecosystem. Since the turn of the [20th] century . . . we have surrounded ourselves with a veritable sea of artificially produced electromagnetic fields, all with a presumption of safety that . . . should never have been made.⁶

The harmful effects of some EM fields are many and varied. Jacqueline Krohn and colleagues point out numerous studies showing that electrical industry workers

have a higher risk of brain tumors. The incidence of childhood leukemia is higher in children who live near power lines that carry high voltage. Power-line exposure has also been associated with an increased incidence of suicide.

These studies support the hypothesis that ELF [extremely low frequencies] act as a cancer promoter. ELF fields interact with the cell membrane and can affect hormones, calcium exchange, and tissue growth. It is postulated that the ELFs suppress the production of melatonin, a cancer inhibitor, by the pineal gland.⁷

The effects of ELF fields is more than mere "postulation," as other researchers have corroborated. In *Electromagnetic Man: Health and Hazard in the Electrical Environment*, the authors cite formal published studies

linking the following maladies to extremely low frequency, electromagnetic fields:

- ◆ Allergies
- ◆ Autoimmune disorders such as lupus erythematosus and multiple sclerosis
- ◆ Birth defects, lowered fertility, miscarriages and pregnancy problems, including stillborn children
- ◆ Blood sugar disorders
- ◆ Cancers, including brain tumors and leukemia
- ◆ Digestive problems, including poor absorption of food, leaky gut, nausea and vomiting
- ◆ Emotional disturbances: anxiety, mood changes, panic attacks and a higher percentage of suicides
- ◆ Ear problems, including tinnitus
- ◆ Eyestrain and headaches
- ◆ Fatigue and sleep disturbances
- ◆ Heart attacks and other cardiovascular issues
- ◆ Hormonal abnormalities, including adrenal stress
- ◆ Immune malfunction and an increase in infections
- ◆ Nervous system disorders, including confusion, convulsions, dizziness, hyperactivity, and memory loss
- ◆ Respiratory ailments
- ◆ Skin problems, such as burning, rashes, tingling, pain
- ◆ Stress increase and intolerance⁸

The damage from harmful EM radiation also depends on its nearness to a person, animal, or plant. A *milligauss* is a unit of measurement of the strength of an electromagnetic field. According to tables from the Environmental Protection Agency reprinted in Levitt's book, a blender from six inches away emits between 30 and 100 milligauss; an electric can opener six inches away emits between 500 and 1500 milligauss; a hair dryer six inches away emits between 1 and 700 milligauss; and a ceiling fan twelve inches away emits between 3 and 50 milligauss.⁹ Some sources maintain that even 2 milligauss is enough to disrupt a person's biological functions, and that the absolute maximum emission a person can safely absorb is only 1 milligauss. This is why there's a high rate of illness among people living near major power lines, cell phone towers, electrical generators, and similar disruptors.

Healing Effects of EM Radiation and EM Fields

Considering how much artificially created, non-beneficial EM radiation surrounds us, alongside the triggers of poor diet, pathogens and chemical pollutants, it's not surprising that so many people are ill. The good news is, if frequencies can harm, they can also be used to heal. Cells have the ability to positively and healthfully respond to minute electromagnetic stimulus as long as certain criteria are met. The stimulus must be from the correct region of the EM spectrum. It must be further refined (if necessary) to an exact frequency, or combination of frequencies, on that EM band. It must be the correct intensity. It must have the correct shape wave or wave packet. It must be administered in the correct amounts. And it must be accurately and precisely aimed at the target.

In electronics, the term *inductive coupling* refers to the transfer of energy from one component to another through a shared magnetic field. An analogy of inductive coupling might be made with two tuning forks that are inherently tuned to the same pitch. One tuning fork is vibrating and the other is not. When the still tuning fork is placed next to the one that is vibrating, it too begins to vibrate.

In electromedicine, the response of living cells to some form of beneficial EM radiation is also known as inductive coupling. Once the EM fields inside a cell are exposed to the correct form and delivery system of EM radiation, the fields within the cell start to move and the corresponding biochemical responses are activated. This includes the movement of electrolytes through a cell membrane, the excretion of wastes, and the release of appropriate biochemicals.

Many beneficial electromedical devices use *pulsed magnetic fields* (or *PMF*). Pulsing a magnetic field elicits movement of the electromagnetic radiation (and its corresponding biochemical reactions) inside living tissues. It does more than induce movement, though. Because pulsing, by definition, means that there's an "off" period to the signal, it ensures that the human or animal receiving the signal does not become resistant to its effects. A good analogy is someone tapping your arm. At first you pay attention, but after awhile, as long as there's no danger, the body becomes impervious to the sensation so it can focus on other stimuli. This is one reason for the high rate of effectiveness of electromedical devices that utilize PMF for therapeutic purposes. Note that PMF is often called "PEMF." This can be confusing, as I'll discuss shortly (Sidebar, page 938).

Correctly employed, frequency therapies can increase cell energy, normalize membrane conductivity, lessen oxidative stress, reduce the amounts of inflammatory chemicals in the blood, improve protein synthesis, boost

feel-good endorphin levels, restore depleted adrenal function, and enhance immune function. The restoration of these metabolic processes lead to the regeneration of tissue as well as resistance to disease.

"Bigger is better" and "More is better" are prominent in the Western mindset, illustrated by the use of megadoses of toxic drugs and the routine practice of invasive "prophylactic" surgery. A more humane and biocompatible—but to some people, counterintuitive—edict, "Less is more," reflects what the body usually needs. The exquisite sensitivity of cells to electric, magnetic and electromagnetic fields explains why electromedical devices work—and why the more gentle ones work the best. Low power energies might not be easily perceived subjectively, but they're the most compatible with living systems precisely because of their lower power.

Electromedicine therapies may use many portions of the EM spectrum: electrical current, magnetism, visible light (either full spectrum or monochromatic wavelengths), far infrared (FIR), ultraviolet (UV), or heat (in the form of specific FIR wavelengths). In the following sections, I'll discuss some therapies that use various EM wavelengths and explore two uses of sound for therapeutic purposes.

ELECTROMEDICINE: ELECTRICAL CURRENT

TENS, the Establishment Standard

Most people are familiar with TENS—short for *Transcutaneous Electrical Nerve Stimulation*—which uses electrical current to control pain. The subject applies to the body, via electrodes, frequencies that can range from 1 Hz to 150 Hz (depending on the unit).

Conventional medicine admits to not understanding completely how TENS works. We do know that it hijacks the usual ways in which the many complex parts of the nervous system record, transmit, and manage pain. In fact, the nervous system is kept so abnormally unbalanced that *the transmission and perception of pain is blocked*. However, the actual cause of the pain is never addressed. Numbness, of course, only masks pain; it doesn't eliminate it.

To be fair, there are times that TENS does eliminate pain on a long-term or permanent basis. This may be due to the deliberate or accidental application of electrode patches on key acupuncture points, which can increase levels of the anti-aging, steroid hormone DHEA (dehydroepiandrosterone), which is produced by the body.

Nevertheless, TENS is not the best modality to use because suppressing body awareness doesn't give the body

a chance to correct itself. This explains why the effects of TENS sessions are usually temporary, limited to the period that the unit is active and attached to the body. Because TENS numbs nerve cells, many people who use it eventually become completely impervious to its signal—yet another reason for the limited success with TENS. A colleague observed that some people become addicted to using TENS units because its hyperstimulation of the muscles causes an overproduction of lactic acid, which causes more pain and induces people to use the unit more.

TENS units produce wave forms that are asymmetrical and irregular. In comparison, holistic electromedical devices produce symmetrical wave forms. The *amperage*—a measure of the *amount of electron flow* (or current)—is radically different with the two modalities as well. TENS operates on *milliamps*, at levels high enough to cause electrode burns on the skin. In contrast, medical devices that transmit electrical current and are genuinely healing to the body, emit *microamps*. One thousand microamps equal one milliamp.

The human body operates on microamps, not milliamps, and thus needs a gentler signal than what TENS is designed to provide (“less is more”). Truly therapeutic electromedical devices restore the body’s awareness—unlike TENS units, which prevent the proper signals from being transmitted. The body can heal only when the correct signals are transmitted in the correct way.

Avazzia™ Devices

Portable electromedical devices that emit small amounts of current in the microamp range have become popular in the past decade. One example is the hand-held biofeedback unit Avazzia™ (made by the company also known as Avazzia, which manufactures the Tennant Biomodulator® as well).

The predecessor of this style of instrument is the Scenar, an acronym for *Self-Controlled Energo Neuro Adaptive Regulator*. The Scenar was developed by Russian scientists in the 1970s to address an unexpected problem with their space program: the forced feeding of antibiotics to all cosmonauts, whether they were ill or well. If one crew member got sick and took antibiotics, all the crew members would end up with the drug in their system because in space, urine is recycled into the shared drinking water. Creating an electromedical device to treat cosmonauts in space would eliminate the “need” to administer antibiotics. This device, about the size of a remote control, was aptly nicknamed the “Star Trek Device” by the press.

According to Russian clinical studies, the Scenar proved effective in 80% of all cases. Of those cases, two-thirds enjoyed full recovery while the remainder

still experienced significant healing. Over fifty thousand successful outcomes were reported for circulatory, endocrine, respiratory, gastrointestinal, neurological, muscular, skeletal, genital, and urinary problems.

In 2004, Texas-based engineer Tim Smith developed an easier-to-use version of the Russian invention. Later, Dr. Jerry Tennant (also in Texas) used the Avazzia™ as the foundation of his private label units. The Avazzia™ and the Tennant Biomodulator® devices work similarly and are intended for comparable healing applications, although Dr. Tennant has stated that his units contain proprietary frequencies and some contain additional features.

All the Avazzia-made models, which are powered by two AA batteries, work on a biofeedback principle. Whether the instrument is moved across the body or resting still on a particular area, the biofeedback feature operates by sending out a series of precisely modulated electrical currents to the skin, measuring the body’s response, and then emitting different signals in response to the changes recorded by the skin. This continually customized, ever-changing approach ensures that the body doesn’t habituate or acclimate to the signal. The therapy is drug-free, non-invasive, safe, pain-free, and inexpensive (considering the number of conditions for which it can be used). In general, subjects not only feel positive effects after the first session, but the effects are long-lasting.

Many stressors can trigger the fight-or-flight response (sympathetic nervous system) and keep it on: pain, trauma, real or imagined danger, constant fear, an unbalanced pH, and even food allergies. With the sympathetic nervous system working overtime, the parasympathetic nervous system—which regulates digestion, sleep, hormone secretion and immunity—no longer functions properly. Being sympathetic-on for long periods creates chronic fatigue and eventually chronic disease. Once the body starts to malfunction, it becomes accustomed to existing in a pathological state and can remain stuck. Avazzia™ units stimulate the healing process by normalizing the sympathetic and the parasympathetic nervous systems. People report relief from pain, swelling and inflammation; faster a healing of wounds; improvement in circulation; and easier recovery from infections. The units are often used for muscle pain and injuries, but they’re also being clinically studied for the improvement or complete elimination of symptoms of arthritis, tendonitis, hypertension, hearing loss, and asthma.

The Avazzia™ stimulates a special type of nerve tissue called *C-fibers*. C-fibers, present in 85% of all nerves in the body, produce and release healing *neuropeptides*, small protein-like molecules that communicate with each other and are involved in many types of brain functions. One job

of these chemical messengers is to reestablish the body's normal physiology and catalyze healing. Neuropeptides can last for several hours, which means that the healing process continues after the treatment is over.

All of Avazzia's units balance the autonomic (automatic) nervous system. This allows the glands and immune cells to rest and recover. The gut is supported, too, so it absorbs nutrients more efficiently. And these units help restore voltage to the cells. A malfunctioning cell cannot metabolize properly. Once the voltage to organs and other bodily tissues is normalized, cellular toxins can be eliminated and water imbalances can be corrected.

To treat, the practitioner first asks the subject the location of the pain, discomfort or dysfunction. If there is clear symptomatology, the practitioner goes to the problem area. However, the spine and abdomen are also key areas to address, even though they might not seem to directly relate to the stated symptoms. Problem areas are perceived by the practitioner as a difference in the sound emitted by the device and by a feeling of "stickiness," a magnetic-like pull that prevents the unit from easily moving across the area. The session is over when the "drag" is eliminated and the client relaxes. Often, the skin around the treated area reddens due to increased circulation.

Avazzia™ units come with optional attachments that can treat on smaller skin areas, on acupuncture points, through hair, and wrapped around limbs. The devices are also FDA-cleared Class II, for symptomatic relief and management of chronic, intractable pain, and adjunctive treatment in the management of post-surgical and post-traumatic pain. Licensed health care practitioners may use it in their practice. However, it's not necessary to see a professional if you need treatment. Laypersons who want a unit can obtain a prescription from their physician.

Frequency Specific Microcurrent

Frequency Specific Microcurrent (FSM) was first used in the early 1900s by physicians and osteopaths in the form of equipment that delivered DC current. In 1987, the device used for FSM was developed by an engineer named Glen Smith. Eight years later, chiropractors Carolyn McMakin and George Douglas discovered some frequencies used in a 1920s electromedical device and began applying them in their practice.

FSM treats nerve, muscle and fascia pain by using frequencies ranging from 3 Hz to 970 Hz. Compared to a TENS unit, which overwhelms the system with easily felt current in the milliamp range, FSM is usually not perceived (although its effects are), as its output is in the

microamp range—imitating what's naturally produced by the body. FSM is painless, safe, non-invasive, and effective.

As with the other equipment discussed here that utilizes electrical current, FSM follows holistic principles. Its ability to alleviate or eliminate pain entirely is due to its restoration of cell function and not simply the masking of symptoms. For example, TENS decreases cell energy (ATP production) by about 50%, protein synthesis by 50%, and cell membrane transport by up to 40%. In contrast, with FSM (using fewer than 500 microamps and not milliamps), ATP production increases (rat studies show by 500%), as does amino acid transport into the cell. This aids in waste product removal and protein synthesis. Studies also suggest that FSM helps insulin bind with its receptor sites on cell membranes, and activates the secretion of collagen and other beneficial substances in and around living cells.

Unit sizes range from about 18" x 9.5" x 6.5" to the "home care" portable unit that's about the size of a large thick cell phone and is operated by one 9-volt battery. All come with various electrode attachments. The use of frequencies isn't regulated by the FDA (so is neither approved nor disallowed), but the devices that provide the current—the Precision Microcurrent machine and the FSM Auto Care and Sports Care unit—are permitted to be used in a medical setting, by prescription. The FDA has approved all microcurrent devices for sale in the category of TENS devices, despite the differences in amperage and biocompatibility of the two modalities.

Conditions suitable for this therapy include arthritis, chronic low back pain, fibromyalgia (especially associated with neck injury), diabetes-related and other neuropathic pains, and myofascial pain (from trigger points in the head, neck, face, and lower back). People with asthma, liver dysfunction, kidney stones, shingles, endometriosis, and irritable bowel syndrome also benefit, although Dr. McMakin reports, "Most cases of post herpetic neuralgia improve with five to six treatments but require the frequencies for scar tissue and inflammation in the nerves damaged by the virus."¹⁰ Practitioners know how difficult it can be to manage (let alone cure) fibromyalgia. After FSM treatments, people diagnosed with fibromyalgia no longer meet the diagnostic criteria for fibromyalgia as set by the American College of Rheumatology.

Injuries from accidents or surgeries, especially if treated within four hours, are found to yield reduced pain and greatly accelerated healing. Symptom relief includes reduced inflammation, increased range of motion, improved visceral organ function, and more manageable emotional states. There are frequencies for over 200 conditions, including inflammation, scar tissue, and even excess mineral deposits and toxicity.

“Body tissues,” says McMakin, “respond to frequencies through the principles of biological resonance, responding to the signals like a radio responds to frequencies from a radio station.”¹¹ Because there’s no biofeedback component to this technology—just a needle on the instrument indicating whether or not the current is flowing—the operator must be trained to recognize, diagnose and treat the most common complaints that involve pain.

Laypersons are not permitted to receiving training in FSM or purchase units, so the therapy is available only from licensed health practitioners. However, some highly sensitive people who don’t respond well to other electrical current units tolerate FSM—probably because the power on FSM equipment is much lower than on other units, and therefore the signal isn’t strong enough to stimulate sensory nerves. Thus FSM may be the optimal treatment for some people, despite dependence on a practitioner.

ELECTROMEDICINE: MAGNETIC FIELDS

Stationary Magnetic Fields

Although many professionals in mainstream science and allopathic medicine do their best to malign magnet therapy, their open-minded colleagues are finding that one or more magnets, properly placed, provide considerable benefits. The magnets come in many forms: as tiny round dots of about 3mm, intended for leaving on painful areas and on acupuncture points (attached to the body with adhesive strips); built into cloth straps for the back, elbow, knee or wrist; as shoe inserts; in pillows and mattresses; and in bracelets, necklaces and other jewelry. Loose magnets (often square) of all sizes are placed on the body when the person is resting, and even configured to treat water. The magnets are made of metal, ceramic, or rare earth. It’s best to tape (or place) magnets on the bare skin; otherwise, they’ll have no effect. Even with a very strong magnet, the field is lost when it’s even a foot (about one-third of a meter) away from the body.

We commonly refer to the two poles of a magnet as the “north” and “south” poles. This has understandably caused confusion for some people, write the authors of *Magnet Therapy*:

All magnets have both a north and south pole by definition. These can be readily identified by allowing the magnet to swing freely in a horizontal plane, and determining which ends point north, or by seeing which end of the compass is attracted to it. “Positive” and “negative” are also misleading and inaccurate terms that

originated with the British Admiralty’s efforts to improve the compass. They had created a freely floating magnetic needle mounted over a card containing markings to indicate gradations in direction based on the orientation of the needle when it pointed to the geographical North Pole. The end of the needle that pointed north was called the north or positive pole of the magnet. Actually, it should have been called the “north-seeking” pole, which would have meant that it was actually negative rather than positive. By the time this error was recognized, the terminology had become so ingrained that it was too late to correct it. [emphasis added]¹²

In the last decade or so, double-blind studies have been conducted on people afflicted by degenerative joints and discs, arthritis, polio, sports injuries, muscle and tendon tears, and other conditions. Compared to control groups who received fake magnets, those who were given real ones enjoyed a significant reduction or total elimination of inflammation and pain, along with an increase in cellular oxygen. These results aren’t due to magic: a strategically placed magnet can increase levels of beta-endorphins, the body’s natural painkillers. Also, as described by one team of researchers, “acute static magnetic field (SMF) exposure can have a modulatory influence on the microvasculature, acting to normalize vascular function.”¹³ In other words, the microvasculature—otherwise known as the *microcirculation* (as discussed in the BEMER® section on page 934)—relaxes. Whenever the microcirculation relaxes, there’s a reduction of inflammation and pain.

A 2008 experiment, “Acute exposure to a moderate strength static magnetic field reduces edema formation in rats,” illustrated this principle very well. We can’t attribute the results of magnet therapy to a placebo effect because the subjects of the study were rats. The animals were injected with inflammatory agents that caused swelling, water retention, redness, heat, and pain. (One of the inflammatory agents was histamine, which contracts most smooth muscle tissue and is often produced by the body in response to irritants. The other agent was carrageenan, a manufactured artificial extract from seaweed that causes extreme allergic responses but which the food industry nevertheless insists on including in thousands of products.) The application of magnets produced a 20%–50% reduction of symptoms. This same response occurs in humans as well, although the researchers did point out that the benefits are much more likely to occur if magnets are applied within 30 minutes of the inflammatory response. However, magnets did lower inflammation more efficiently than ice.¹⁴ Other

PROPERTIES OF MAGNETS	
North Pole	South Pole
<i>Calms, Soothes and Sedates</i>	<i>Energizes, Excites and Activates</i>
Slows growth, cellular activity and maturation	Stimulates growth, cellular activity and maturation
Controls infection by slowing microbial reproduction	Promotes infection by stimulating microbial reproduction
Increases alkalinity; reduces acidity	Increases acidity; reduces alkalinity
Can relieve or entirely eliminate pain (which is believed to be a condition of too much systemic acidic waste)	May increase pain (which is believed to be a condition of too much systemic acidic waste)
Reduces inflammation	May increase inflammation
Slows metabolism	Speeds metabolism
Stops tumor growth	Stimulates tumor growth
Causes muscle contraction	Allows muscle relaxation
Stops bleeding	Increases bleeding
Slows cardiac activity and pulse	Speeds cardiac activity and pulse
Increases blood pressure	Decreases blood pressure
Encourages sleepiness	Encourages wakefulness

Figure 10: Properties of magnets

favorable studies include “Randomised controlled trial of magnetic bracelets for relieving pain in osteoarthritis of the hip and knee,”¹⁵ “Effects of static magnets on chronic knee pain and physical function: a double-blind study,”¹⁶ and “Response of pain to static magnetic fields in postpolio patients: A double-blind pilot study.”¹⁷

Because magnetic therapy is a small field, there’s no standard for magnet intensity, which is measured in *gauss* (or the newer term, *tesla*; a single tesla equals 10,000 gauss). A minimum strength of 500 gauss is recommended for chronic illnesses. Magnets are generally classified:

- ◆ Weak, less than 10 gauss
- ◆ Medium, 10–500 gauss
- ◆ Strong, 500–2000 gauss
- ◆ Very Strong, over 2000 gauss

Generally, the two poles of a magnet have opposite properties (see Figure 10). People who need pain relief and tissue restoration use the north pole side. The south pole, which has been documented to cause tumor growth, can also be used—albeit very carefully, and only for conditions of very low energy such as numbness, weak muscles or paralysis, where infection is not a prominent factor. The south pole is also useful for farmers. Exposing the dampened seeds overnight to south pole energy will cause them to rapidly sprout, and the next morning there will be plants to put into the earth. Always remember, though, that south pole energy will stimulate cancer cells to grow. This is why the north pole is generally much safer to use. If both fields are equally strong on a magnet (which they might be, depending on the magnet’s configuration),

the magnet can be safely used for about a week, and resumed after a brief interval. Consult a professional. The three major placements for magnets are at the area of pain, the area of *referred* pain (which is away from the apparent source of the pain), and acupuncture points.

We know *what* the characteristics of the two poles are. But *how* do they work? The *Magnet Therapy* authors write that in a static magnetic field,

there is a constant invisible motion of ions as they pass in and out of cells, and a good reason to believe that this is where “the action” is—in both static and electromagnetic fields . . .

An ion is an atom or group of atoms with a positive or negative charge. Sodium, calcium, potassium, and magnesium are positive; chloride and phosphate are negative. Like magnets, opposite ions are attracted to each other, which is why we have, for example, sodium chloride, or salt. Positive ions like potassium and calcium compete with sodium to get hooked up to something negative. Electrical activity results because of the motion of these charged particles, which in turn are affected by magnetic fields.

. . . The ability of magnetic fields to provide so many diverse clinical benefits suggests their *modus operandi* is at a very basic level of cellular function. This appears to be confirmed by research studies demonstrating that they alter the dynamics of calcium, potassium, sodium, and other ion transport across cell membranes. In turn, these can have profound effects on essential enzyme systems that influence ATP [adenosine

triphosphate] formation [the source of energy for all cellular activities]. . . . both electromagnetic and permanent magnet fields can influence ATP activities . . .¹⁸

Our knowledge of electricity and electromagnetism suggests that more functions may be involved, but this is a good start.

According to some sources, the low or moderate intensity magnets, compared to the highest strength magnets, work better. Often the high strength magnets don't even work at all. This follows the "less is more" principle of biocompatible energies.

Now that we understand the basics of static magnets, let's examine more dynamic equipment that uses magnets for therapeutic purposes.

Oscillating Magnetic Fields: Dr. Henry Lai's Malaria Treatment

Up to 2.7 million people die of malaria every year—one million of whom are children—according to the World Health Organization. In addition to fever, head and joint aches and shivering, malaria often causes seizures and death, if infected blood cells block the blood vessels leading to the brain. *Plasmodium falciparum*, the parasite that causes malaria, has become increasingly resistant to pharmaceuticals. However, bioengineering professor Henry Lai and three University of Washington colleagues have discovered a way to eliminate malaria using very weak, rotating magnetic fields.

Dr. Lai's treatment is simple and elegant. *Plasmodium* becomes weak and dies when exposed to oscillating magnetic fields. While the death throes of the parasite may sound similar to what happens to other microorganisms when exposed to frequencies emitted by rife-style frequency devices, in this case, the magnetic field does not emit variable frequencies.

The principle behind Lai's magnetic device is based on the parasite's unique metabolism. After the person is bitten by the mosquito that carries *Plasmodium*, the parasite first penetrates the liver and then re-enters the bloodstream to feed off the hemoglobin in red blood cells. *Plasmodium* eats the globin portion of the hemoglobin molecule, but it lacks the enzyme needed to break down the iron-containing heme in the hemoglobin. Because free heme molecules can cause membrane damage, *Plasmodium* protects itself by arranging the heme molecules into long stacks—like "tiny bar magnets."¹⁹ Lai believes that the oscillating magnetic field affects the parasite in two possible ways. Either the heme molecules cannot form stacks and are free to move in the parasite and cause harm. Or, the stacks spin as a

result of the magnetic field and mechanically injure the parasite. Both scenarios cause damage and death to the parasite. Although there is only a minute amount of iron in a heme stack, it is enough to be affected by magnetic fields.

Some experiments show 33% to 70% fewer parasites in exposed than unexposed samples, indicating a significant slowing of the parasite's metabolic functions and thus sufficient to manage the disease. It's unlikely, says Lai, that *Plasmodium* would develop a resistance to magnetic fields. He also believes this treatment will not harm the human host: "It's a very weak magnetic field, just a little stronger than the Earth's. The difference is that it is oscillating."²⁰ "I think," he adds, "it should be safe for short-term (hours) exposure."²¹ Other researchers have continued this line of research, such as in the 2018 article, "Growth of *Plasmodium falciparum* in response to a rotating magnetic field."²² Results are promising.

Magnetic Vortex: the Magnetex®

Much of the available research in magnetic therapy consists of studies using a single pole of stationary magnets. However, as we have just seen with Dr. Henry Lai's technology, magnetism combined with movement can be extraordinarily powerful. In a 2012 article, "Rotating Magnets Produce a Prompt Analgesia Effect in Rats," the authors stated that while pain relief can be obtained from a static magnetic field, a rotating magnetic field (RMF) produces more immediate and long-lasting results. The "spin-magnetic field generator" that the experimenters designed was basically a disc holding magnetic bars, which was attached to a motor and spun rapidly. The authors suggested further exploration of this and similar equipment to develop "a non-pharmacological approach of anesthesia."²³

It's unknown if research on RMFs was continued, as it can take several years for an article to be published. However, given the promise of magnet therapy in general, it's not surprising that in 2012, the Magnetex® was developed. The 4-pound hand-held unit derives its power from a magnetic vortex created by four rapidly spinning neodymium magnets. The Magnetex® is reported to do one thing only: pull dangerous, toxic debris from the cells and tissues of the body. This includes biofilms (the dense sticky mass that houses and protects bacteria, fungi and parasites); wastes produced by the body (such as hormones and acids); heavy metals; microbial wastes; and even nanoparticles. Once cell-clogging material is pulled into the bloodstream for removal by the body, the cells can metabolize properly, eliminate waste, and function again.

People report using the Magnetex® quite successfully for:

- ◆ Allergies and chemical sensitivities
- ◆ Anxiety, brain fog, poor concentration / memory
- ◆ Digestive issues
- ◆ Fatigue
- ◆ Headaches and migraines
- ◆ Lung and sinus congestion
- ◆ Pain in back, joints, and muscles
- ◆ Skin problems

The flat, 4.25" diameter head of the Magnetex® is lightly placed on or just over the area that needs attention (the field extends about one foot, or one-third meter, after it's turned on). Some people rest the equipment on the liver or abdominal region for detoxification purposes, although a more common use is for pain on areas such as an arthritic hand, a knee joint, the foot, or the neck. To address the back, it's helpful to have someone else run the unit down the spine, stopping at the neck/shoulder area, middle back, or lower back for perhaps 30 seconds to allow the vibrations from the unit to do their job. The Magnetex® imparts strong continual pulsations—reminiscent of the vibrations from a massager—that are relieving and pleasant from a mechanical standpoint. However, its deeper work and greater value are from the magnetic vortex that draws out debris from the tissues.

Before and after live blood analysis has shown that after a 15-minute session, the bloodstream is littered with waste. Rather than becoming alarmed, we should remember that the unit is merely doing its job, and that the body will eliminate the debris. The company suggests drinking plenty of water to help flush the wastes from the system, either immediately before or after the session.

Magnetex® users typically report feeling mentally clearer, more flexible, more relaxed, and freer from pain. One astonished practitioner reported that after administering two 10-minute sessions each to two elderly clients (on the neck near the ears), the clients threw away their hearing aids because they no longer needed them.

With this machine, simple in appearance and easy to use with its one setting—an “on-off” switch—it's tempting to overdo the amount of time spent in a single session. The company is careful to warn customers to avoid the Western mindset “more is better.” In this case, more is definitely *not* better. In fact, a typical session should be fewer than 15 minutes; and four shorter sessions (for instance, 10 minutes each) are preferable to three longer sessions (for instance, 15 minutes each). You don't want to overload the system. Generally, the Magnetex® provides such rapid results that more time isn't necessary.

As with all instruments that emit a strong magnetic field, don't place the Magnetex® directly over the heart. This unit is experimental, customers use it at their own risk, and no medical claims are being made, states the company website. So far, though, results have been impressive. “As far as we know, our use of spinning both positive and negative poles, along with the added feature of [mechanical] vibration, is unique in the energy medicine arena. We have seen both rapid and profound results that we believe can be attributed to the torroidal energy field that the Magnetex® creates.”²⁴ Knowing that waste adversely affects cell function—and thus can cause or contribute to any illness—it's easy to understand why customers may achieve dramatic results.

In December of 2020, inoculations (misleadingly labeled “Covid vaccines”) began to be distributed worldwide. Some medical researchers, viewing these experimental concoctions under a microscope, observed technology they called “nanobots.” The researchers also saw paramagnetic particles that look and act like graphene. (Consisting of thin layers of carbon in a lattice, graphene is used in biocircuitry that's powered by artificial intelligence.) Because these non-vaccine technologies possess organizing, transmitting and receiving capabilities, they can be used for data recording, tracking, and even body and brain manipulation. In addition, alarmed people began reporting that their bodies became magnetic after being jabbed (magnets actually gripped the skin!). Preliminary research shows that the Magnetex® may scramble or deactivate the programming, and break up the structure, of these highly invasive neuromodulation technologies.

Pulsed Magnetic Fields: the BEMER®

Compared to some electromedical equipment, BEMER®—an acronym for *Bio-Electro-Magnetic-Energy-Regulation*—is simple to use and operate. It consists of a mat (containing coils) on which subjects lie; a small control box connected to the mat that plugs into the wall, with various settings that regulate the intensity of the device's signal; and some optional accessories such as a small applicator for concentrated treatment over a small area. Approved for medical purposes in the European Union, this patented Swiss-made device uses a pulsed magnetic field to improve circulation in the tiny blood vessels.

Those accustomed to thinking of the heart and larger blood vessels as “the circulatory system” might not regard the BEMER's function as impressive or unique. However, three-quarters of the body's circulatory apparatus is comprised of blood vessels that are much smaller than arteries and veins—a vast network whose flow is called the *microcirculation*. Arteries carry blood directly away from the heart and veins carry blood directly back to

it, but it's the smaller vessels that do the major work. *Capillaries*, whose walls are just one cell thick, are next to every cell in the body. When placed end to end, the capillaries in just one body would circle the Earth twice. *Arterioles*, smaller than arteries, carry oxygenated blood from the organ tissues to the capillaries. *Venules*, which are small and quite narrow, receive blood from capillary beds and eventually form the larger veins. Combined, these tiny blood vessels deliver oxygen and nutrients to the cells and remove carbon dioxide and other wastes. Each day, the red blood cells supply and clean an area of more than 75,000 miles (120,000 kilometers).

The microcirculation also controls the distribution of blood to and within the body's organs and tissues. This heavily impacts blood pressure as well as swelling, which is the body's response to inflammation. Properly functioning microcirculation ensures that blood flows to areas that need it the most, such as muscles during physical exertion or the brain during intensive mental processing. Note that the tiny microcirculation channels can accommodate only one red blood cell at a time. The flow of red blood cells is regulated not by pumping, but by the pressure of fluids moving through semipermeable membranes. Even with the *macro*circulation working well, if the *micro*circulation is not—if the tiny vessel walls are not relaxed enough to release the red blood cells under pressure—then the red blood cells won't reach where they're needed and circulation will halt, stagnating the tissues and encouraging the development of degenerative conditions and infectious diseases.

Degeneration and disease equal pain—and this is when we most strongly feel the effects of malfunctioning microcirculation. The authors of *Magnet Therapy* explain the connection between pain, capillary malfunction, and electromedical therapy that restores capillary function.

Capillaries are key to understanding how magnets relieve pain via increased blood flow. The capillaries, far narrower than arteries or veins, are the regulators of blood flow. *They are turned off until there is a need for carrying oxygen in and carbon dioxide and other waste products out. Then they are activated.* Blood flow in tissue is governed by how many capillaries are flowing, just as water use in your home depends on how many faucets are opened. When their walls are relaxed, they allow the blood to flow more freely. . . .

Capillary action helps pain in another way: by speeding up fluid exchange in injured tissue, thereby flushing away the pain and inflammation chemistry at the site. These include unwanted byproducts such as lactic acid, which are major

causes of pain and inflammation. . . . In most cases, this stepping up of the metabolism not only stops pain but also stimulates the body to heal faster since *the movement of oxygen and other nutrients to the cells will increase as the capillary blood flow continues.* [emphasis added]²⁵

What “turns off” the microcirculation? Contributors include stress, poor diet, infection, inadequate sleep, and toxins—all of which unbalance blood glucose and electrolyte levels, and on a subtler level, the cellular electromagnetic charge—thus preventing red blood cells from easily diffusing out of the tiny blood vessel walls to reach their intended locations. By increasing the cellular charge, BEMER® improves circulation, oxygenation and hence, function of muscles, organs, glands, and even bone. Among many conditions, BEMER® addresses:

- ◆ Arthritis
- ◆ Burns
- ◆ Cardiovascular dysfunction (including blood clots)
- ◆ Fatigue (chronic or acute)
- ◆ Headaches and migraines
- ◆ Immunity (greater protection from infections)
- ◆ Insomnia
- ◆ Metabolic disorders
- ◆ Muscle injuries and sprains
- ◆ Nerve damage
- ◆ Respiratory disorders, including asthma
- ◆ Skeletal system: bone fractures and even osteoporosis
- ◆ Swelling
- ◆ Wounds, cuts, scrapes, skin rashes

The BEMER's settings range from low to moderate to high intensities. If you're frail or recovering from a severe or chronic illness, start slowly on the lowest setting and gradually increase the signal intensity as your energy improves. Only athletes and the very healthy should use the advanced BEMER® settings, which emit the most powerful signals. The unit times the treatments (ten minutes average) and shuts itself off when the sessions are finished. One setting will run overnight and help with sleep. Most people feel very relaxed from a session. They may feel a slight tingling as blood flow improves. Dogs and other small pets generally enjoy lying on the mats. There's also a BEMER® blanket for horses.

Clearly, the health of our microcirculation is critical. “Microcirculatory effects of pulsed electromagnetic fields” appeared in a 2004 issue of *Journal of Orthopaedic Research*.²⁶ About fifty favorable scientific studies specifically about BEMER® therapy have been published. One article, appearing in a 2016 issue of *PLoS One*—“BEMER Electromagnetic Field Therapy Reduces Cancer Cell Radioresistance by Enhanced ROS Formation and Induced DNA Damage”²⁷ reported that BEMER’s normalization of microcirculation disrupts the metabolic pathways of cancerous tissue. The goal of the authors was to make cancer cells more receptive to toxic chemicals, but people choosing holistic protocols for cancer also benefit from BEMER®. This title alone, in a 2013 issue of *Journal of Complementary and Integrative Medicine*, provides an informative summary: “The effects of the ‘physical BEMER® vascular therapy,’ a method for the physical stimulation of the vasomotion of precapillary microvessels in case of impaired microcirculation, on sleep, pain and quality of life of patients with different clinical pictures on the basis of three scientifically validated scales.”²⁸

People may be discouraged by the high price of the BEMER®, which is distributed via a multilevel marketing system. However, a number of less costly mats are now appearing on the market that report circulation benefits similar to those of the BEMER®. We shall see, in time, how true those reports are.

Pulsed Magnetic Fields: the ONDAMED®

The ONDAMED®, developed by German electronics engineer Rolf Binder, uses a pulsed magnetic field that conveys frequencies. The machine consists of the base (18.5" x 14" x 4"), which weighs about 25 pounds in its heavy-duty case, and various applicators that are placed on the body or held. The software introduces various frequency patterns, times and intensities. Frequencies range from 0.1 Hz to 32,000 Hz. The pulsed magnetic field emitted by the unit covers a small but focused area. This unit is sold only to health professionals and requires some training to use; but the principles of how it works are useful to know as they apply to other equipment.

To find which protocols to use, the practitioner places an applicator around the client’s neck while holding the subject’s wrist and scrolling the machine through a range of programs. When a frequency is emitted that the body may need, a sudden change in the radial (circulatory) pulse occurs. The change in the subject’s pulse can feel like excitation (jumping or throbbing) or weakening (slower, less obvious). (This physiological response, known as the Vascular Autonomic Signal or VAS, was discovered by medical doctor Paul Nogier in 1966.) The “biofeedback”

aspect of the ONDAMED® is the person’s bodily response to the unit’s emissions. The practitioner chooses the top two patterns that caused the strongest reaction, and which will thus have the most therapeutic value. VAS is also used to find the optimal placement for treatment.

Not everyone’s pulse completely normalizes for the duration of treatment. For future tests, other areas and frequency patterns may be more useful. No more than two frequencies are administered at one time during therapy so that the body isn’t confused by too many signals.

The company isn’t allowed to make medical claims for the equipment, but does state that the biofeedback has worked well for pain management, stress relief, detoxification (waste elimination and nutrient absorption), reduction of addictive patterns (such as smoking), and weight management. People suffering from allergies, arthritis, inflammation, lymph and hormonal problems, infections, and pain report that their symptoms subside or are completely eliminated. The ONDAMED® is popular with smokers to stop nicotine addiction: a 95% effectiveness rate is reported, in an average of one to three sessions. People with other health conditions generally notice improvement in five sessions, although some people require more. The range is generally one to 20 sessions.

How does the equipment work? Medical doctor Wolf-Dieter Kessler relays a dialogue about ONDAMED® with physics professor J.B. Sharma:

Each organ has specific natural frequencies corresponding to its healthy state, to which it resonates if driven by an appropriate external frequency. . . . look at the body and its constituent parts as oscillators. In a healthy body, the ensemble of the oscillators “vibrate” in harmony with each other. . . . Under this model, disease may then be understood as a departure from a healthy synchronous vibration. The [diseased] parts of the body . . . display a lower energy or a chaotic, asynchronous vibration. The difference between an optimally functioning state and a diseased state in the human body is detectable by Nogier’s pulse feedback method . . . [during which] a very small shock is created to the cardiovascular system when a specific frequency hits a diseased site, which then evokes a tempering or “tuning” of the oscillating components through resonance. . . . The asynchronously vibrating components of the diseased body will resonate harmoniously for a brief moment when hit by the proper frequency. . . . Further treatment with the appropriate frequencies would then bring all components

back into synchronous vibration with the tendency to maintain that state of higher order.²⁹

We know that deviations from the frequencies of healthy tissue indicate energy blockages that can then lead to health problems. On the biochemical level, blockage of an area is synonymous with a static field, characterized by accumulated acids (excess hydrogen ions, or H⁺), which block the transfer of impulses the body needs for the smooth flow of information. We know that superimposing one magnetic field on another induces the flow of electrons. When the ONDAMED[®] introduces specific electromagnetic impulses into the body, the movement of electrons is induced to the organs, glands, muscles, vessels, bones, nerves, or other tissues that require a more efficient flow of information.

The ONDAMED[®] is approved by the Institutional Review Board as a non-invasive secondary therapeutic device for the alleviation of pain, discomfort, and general malaise in the treatment of various disorders. The inventor, although pleased by the reports of success, nonetheless emphasizes, “It’s very important to get the body working by itself. You don’t want to get the body dependent on a drug—or the machine, for that matter.”³⁰

ELECTROMEDICINE: PLASMA RIFE THERAPY

In 1933, the resolution power of microscopes wasn’t very high and electron microscopes were still being developed. This led American scientist Royal Raymond Rife—who wanted to examine microorganisms as small as viruses in their living state—to invent the Universal Microscope. Rife’s microscope had remarkable depth of field, and its clarity rivaled that of even later electron microscopes. The Universal Microscope held great promise in finding cures for diseases, because if you can see how living organisms respond to stimuli, you have a better chance of finding a way to destroy them.

As it turned out, the “stimuli” from Rife consisted of his next invention—the Rife Ray, an electromedical device that cured cancer and other serious diseases. Successfully used by some of the most prominent physicians of his time, the non-invasive and effective Rife Ray was driven underground, banned by the American Medical Association and FDA because it was far more effective than toxic drugs. Only in the last couple of decades has Rife’s equipment emerged again for therapeutic purposes, albeit in an altered form.

The principle of the Rife Ray’s operation was elegant. If a virus or bacterium began to oscillate in response to

a particular frequency that Rife aimed at it—and then it grew weak or destabilized—Rife knew that he had found the *resonant frequency* of the pathogen, or its *mortal oscillatory rate* (MOR). “Any object has a certain natural or resonant frequency,” explains James L. Oschman.

Strike it, bump it, pluck it, or heat it, and it will tend to vibrate at a specific frequency. This applies to a bone, a piece of wood, a molecule, an electron, or a musical instrument. . . . In the living body, each electron, atom, chemical bond, molecule, cell, tissue, organ (and the body as a whole) has its own vibratory character. . . . In terms of vibrations, the human body can be compared to a symphony orchestra. Each molecule corresponds to a particular instrument. Each bend, rotation, or stretch of a chemical bond has a certain resonant frequency, and will give off certain “notes” if it is energized. Since molecules, water, and dissolved ions are constantly bumping into each other at body temperature, all parts are constantly jiggling and absorbing and emitting energy. . . . When two objects have similar natural frequencies, they can interact without touching; their vibrations can become coupled or entrained. For electromagnetic interactions between molecules, the word “resonance” is used more often than entrainment. In the older literature you will find the term “sympathetic vibrations.”³¹

The destruction of a pathogen has often been compared to the cliché of a soprano singing a pure, focused tone that shatters a glass whose resonant frequency matches that particular tone. While this glass-shattering phenomenon is genuine, using sound to describe how Rife’s equipment worked is an imprecise analogy. A sound wave is a mechanical motion. But Rife’s units could affect microorganisms through many inches of concrete, which can absorb mechanical motion (and thus prevent it from being transferred elsewhere). Therefore, something else was responsible for the destruction of pathogens: *electroporation*, the abnormal permeability of either a microbial cell wall or a human or animal cell membrane. The permeability is most pronounced during an energy transfer, or *when there’s a match in wavelength* (frequency). The Rife Ray—through *resonance*, or the matching of wavelengths—transferred energy to the microbial cell walls. This increase in energy disturbed the electrical charge of the pathogens, causing a *change in shape and pattern*, which compromised their structural integrity. Due to this electroporation, the pathogens began to destabilize.

Which Is It? PMF? PEMF? Or Something Else?

Good electromedical devices, no matter what the delivery system, affect the body in similar ways. To varying degrees (depending on the delivery system), they increase electrical charge and balance the electromagnetic fields in the tissues. Physiologically, this can translate into ion transport, increased blood and lymph flow, and more.

Few electromedical devices cause as much confusion as those that employ a pulsed magnetic field (PMF) for healing, because PMF may be called by other names: “low field magnetic stimulation” (LFMS), “pulsed electric field” (PEF), “electricity-generated magnetic field” (EGMF), and most commonly, “pulsed electromagnetic field” (PEMF). Many researchers use these terms interchangeably. So do manufacturers of PMF equipment. These alternate terms can be misleading, because the way in which the machine delivers its signals appears to be conflated with what’s happening in the body that receives these signals.

Machines that emit a *pulsed magnetic field (PMF)* do this in one of two ways: either with a Helmholtz (or similar) coil that contains two specially aligned electromagnets, or with a wire that conveys electrons when electricity flows through it. Both of these methods provide a generalized magnetic field. To *pulse* the field, a frequency generator is used, which creates a frequency-specific signal. The speed of the pulse determines the frequency. For example, to create 35 Hz, the electrical current switches on and off 35 times a second. To create 2127 Hz, the current switches on and off 2127 times a second, and so on. Any frequency can be created by pulsing a magnetic field. Once the body receives these frequencies, movement and healing in the tissues is induced.

A journal article on healing bone fractures states: “Electromagnetic fields (EMFs) have shown a promising potential for [healing bone fractures]. . . the most important of them are direct current, capacitive coupling, inductive coupling (pulsed EMF), static and combined magnetic fields.”³² Another article states: “PEMF can be applied to biological tissues [via] . . . inductive coupling. . . the magnetic field produces an electric field that, in turn, produces a current in the conductive tissues of the body . . .”³³ The PEMF in the title apparently refers to *all* possible fields in the electromagnetic spectrum that can be created with many types of electromedical equipment.

Ask the manufacturer of your electromedical device exactly how it works: what the machine emits, and how it affects your body. Some people do better with one delivery system than another.

How were the resonances conveyed? Royal Rife’s ray equipment very likely incorporated the inventions of several other scientists—Albert Abrams’s Oscilloclast, Nikola Tesla’s plasma lamp and Georges Lakhovsky’s Multi-Wave Oscillator. However, the Rife Ray operated on different principles. It delivered frequencies in the radio frequency (RF) range by sending an electrical current through a tube filled with noble gases (mostly argon and neon). The gases would light up the tube, and the frequencies were emitted as EM radiation. It was the *EM wave*, rather than the luminescence from the light, that disabled or killed the pathogens.

Some laypersons and even equipment manufacturers erroneously refer to Rife’s technology as PEMF (short for “pulsed electromagnetic field”). But although a PEMF is being used to *create* the plasma in the noble gas-filled tube, it’s the *photonic field emitted by the plasma*, which entrains the cell membranes, that creates the desirable effects. Note, too, that plasma has some attributes that are different from those of an EM field—such as the ability of photonic emissions to pass through solid objects—so *longitudinal* or *scalar* waves were likely also present.

Rife discovered the resonant frequencies for cancer, typhus, *E. coli*, and other microorganisms. People given “terminal” diagnoses by their doctors would often become well when exposed to the Rife Ray. A pathogen’s MOR frequency administered at a low power level is harmful to the pathogen, but it doesn’t harm a larger animal or human host because the host is larger, and has a much more complex structure, than a microorganism.

Some modern frequency devices contain plasma tubes filled with noble gases, while others are equipped with hand-held, cylindrical metal electrodes or electrode patches that deliver the signal into the body via electrical current (which has entirely different properties than radiant plasma). While most plasma tubes are freestanding, one unit is equipped with long hand-held glass rods. Since Rife’s time, FCC regulations have forbidden devices from transmitting RF over long distances because they interfere with radio broadcast signals. Due to that, as well as changes in technology, today’s ray tube units transmit weaker signals at lower frequencies than the machines that Rife built. Modern machines range from mostly 1 Hz to 400,000 Hz; although some equipment, depending on how it’s constructed, can run higher frequencies. Because electrode units touch the body, they have fewer legal constraints than plasma units, and have a much wider range, typically outputting to the millions of hertz or megahertz (MHz).

Rife technology devices can range from simple to elaborate, with varying programming capabilities.

Smaller units can be the size of large loaves of bread, while large ones equal the size of tower computers. The user inputs the desired frequencies into the computerized machine, and a signal is sent to the noble gases in the tube. The resulting EM field disables or kills the microorganisms in the body, while also inputting energy into the body's cells.

In countries outside the United States, such as Germany and Romania, Rife Therapy is approved for medical purposes and is thus used in clinics, doctors' offices and even hospitals. In North America, which has more restrictive laws, the primary market for this equipment is consumers. If practitioners do use it for clients, they aren't allowed to make medical claims. Manufacturers of frequency equipment exist worldwide.

Two excellent freestanding plasma light frequency devices are especially popular in North America: the PERL M+ from Resonant Light Technology Inc. in Canada, and all of the P3 units from Pulsed Technologies, which has offices in the United States and Romania.

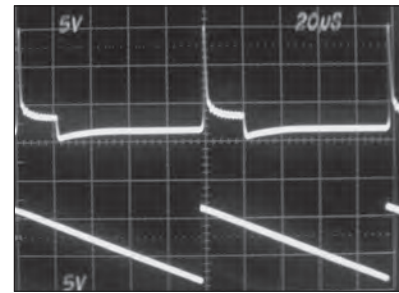
The PERL M+ is equipped with a glass tube filled with 100% argon gas and is run by the ProGen 3 generator, which can apply electrodes at the same time. When the noble gas is lit by the transmitted RF energy, the unit emits frequencies from 1,000 Hz to 3,100,000 Hz over a 27.125 megahertz carrier. The waveform (square, sine, or triangle) has a range of up to 30 feet (9 meters). The customer can either program frequencies into the unit or use a pre-programmed protocol. The equipment's management system (manufacturing quality and customer support) has received an international standard of certification; so should the company decide to apply for Class II Medical Device status, they will have met all the requirements. In Canada, Resonant Light Technology Inc. cannot legally state that the PERL M+ is a therapeutic device for use on humans, but the company does suggest other applications: therapeutic use with animals, extending the life of food in clinically controlled food storage lockers, slowing the growth of mold and fungi in greenhouses, and reducing the parasitic count within fruit orchards. Energizing the body is an obvious application as well.

Pulsed Technologies makes several different machines. The frequency outputs of this company's units range from .01 Hz to an impressive 1,000,000 Hz. All of the plasma systems are driven by the Precision Function Generator (PFG 2Z). The tubes are filled with a proprietary mixture of noble gases: neon, argon, krypton and xenon.

Unlike almost all other "rife" frequency devices, Pulsed Technologies equipment operates on principles that do not require an RF (radio frequency) carrier wave.

Nevertheless, the signal is powerful enough to penetrate deep into the body because the electronics manipulate the shape of the wave.

In Figure 9, the bottom of the photo, taken of an oscilloscope, depicts a signal sent *into* a tube by a Pulsed Technologies frequency generator. At the top, an entirely different waveform is emerging *from* the tube. It's the fast rise time, and sharp spike on the wave, that allows the signal to penetrate.



*Figure 9: Bottom, wave from generator to tube
Top, wave from tube; Pulsed Technologies*

All PFG generators may be used separately from the plasma unit as contact (electrode) devices. The computer software, included with the machines, has many options for creating sessions or adding to sessions, and selecting individual times and wave shapes for frequencies. Many practitioners and researchers as well as lay customers use this equipment. The company's emphasis on research—it sponsors the Eastern Europe-based professional Research and Resource Exchange Network—makes it popular in Europe, where doctors have seen substantial improvements in the subjects enrolled there in clinical trials. Applications of a Pulsed Technologies unit are similar to those of the PERL M+. The uses for a freestanding plasma light unit are limited only by the imagination of the user.

In Rife's era, it was proven that his frequency devices disabled pathogens that made humans and animals sick. We now know that some frequencies can regenerate tissue as well. One excellent frequency, used by modern users, that restores the voltage of cells is 40,000 Hz. While Rife's technology appeals to holistically oriented health practitioners, it can also be utilized by laypersons. In fact, this therapy is one of the most user-friendly of all "do it yourself" therapies. The largest market in the United States and other countries consists of people who want to improve their own health, as well as the health of their family, friends, pets, and farm animals.

One more thing. Rife Therapy can elicit strong detoxification responses. This will be addressed later in **Detoxification Responses**.

ELECTROMEDICINE: TRANSCRANIAL DIRECT CURRENT STIMULATION (tDCS)

In contrast to Rife Therapy, which is generally geared toward the entire system and the disabling of pathogens, Transcranial Direct Current Stimulation works solely with the brain. A type of neurostimulation, Transcranial Direct Current Stimulation (abbreviated *tDCS*, with a small “t”), has been extensively studied by the United States military for its potential to accelerate learning abilities, enhance visual perception, improve imagery recognition, and achieve an overall superior performance.

tDCS technology relies on extremely small amounts of safe, controlled, low-voltage, direct-current (DC) microcurrent to selected brain locations that are accessed via the scalp with simple sponge electrodes. Depending on where the electrodes are placed, tDCS either amplifies or inhibits neural pathways in the brain to address different functions. For example, it’s desirable to subdue activity in those brain centers that deal with addictions, hyperactivity and insomnia, while it’s desirable to augment activity in those brain centers that deal with learning and creativity.

Neurons (nerve cells) in our bodies act like wires as they conduct electrical messages. tDCS brings up the voltage, or forcefulness of electron flow, in the neurons. While the voltage from tDCS isn’t high enough to cause a neuron to fire, the current creates a clearer, more definite path for the electrical messages when the nerve actually does fire. (The neuron will retain more voltage for about an hour after the equipment is removed; and this effect will accumulate.) Used regularly, tDCS permanently causes the thickening of the fatty myelin sheaths that surround each neuron and act like rubber insulation around an electrical wire. This increased insulation helps the nerve cells to more easily pass electrical signals. Simply put, tDCS gives us a more efficient brain, and the user decides what functions he or she wants to improve.

The effects from tDCS are non-invasive yet profound. Several hundred published studies and technical papers show a reduction in depression and anxiety, a lessening in the number and intensity of risk-taking behaviors, improvement in speech and social interactions, heightened creativity, improved meditation, and more mindfulness.

Because so many different brain functions can be engaged, doctors have begun using the technology for various forms of rehabilitation and repair. People with Alzheimer’s, Parkinson’s disease, motor control issues, fibromyalgia, migraine, allergies, and chronic pain are beginning to see good to excellent results.

Pulsed Technologies, known for its “rife” frequency and EMF protection equipment, has made tDCS available

to the public at a very affordable cost. Some people might not even call it “equipment” because the unit consists of pieces that look like the most ordinary of accessories (even though the results can be astounding):

- ◆ An oversized flash drive containing tDCS electronics, which drives the unit and plugs into the thumb drive port of a computer, tablet, or smart phone.
- ◆ Two 2" round electrodes with microfiber-covered sponge on one side.
- ◆ A headband to affix the electrodes onto the head.

A lengthy, illustrated manual is provided with the equipment to help the user decide where to place the electrodes, depending on the goal. This technology is compatible with, and augments, all other modalities. It can be used during pregnancy and any crisis, imparting help without pharmaceuticals or even other therapies.

ELECTROMEDICINE: MONOCHROMATIC VISIBLE LIGHT (LASERS AND LEDS)

You’re at a lecture in an auditorium. The teacher, using what she calls a “laser pointer,” is shining a red-beamed penlight onto an image in her slide presentation that she wants you to focus on. The dot moves, and you focus on another image. After your class, you go home and play with your pet cat. You grab a pointer similar to the one your teacher had been using, and create a moving dot on the floor that keeps the cat occupied for as long as you’re willing to play. Try as she might, the cat can never catch the dot as it wiggles and waves on the floor, the walls, then the floor again. It’s difficult to see the beam through the air, but the dot magically appears on the floor. Later, you’re aware of how much your shoulder is hurting (probably from those heavy books you’ve been carrying around all day to your classes). So you open a drawer, take out an instrument with many diodes, turn it on, and apply it to your shoulder. After about fifteen minutes, you feel better. What do all these situations have in common? You’ve been using *monochromatic light*, which is the principle behind both lasers and LEDs.

Laser is an acronym for *Light Amplification by Stimulated Emission of Radiation*. To the uneducated general public, the word “laser” evokes a dangerous beam, usually red, that is used in restricted industrial and medical situations. But safe laser therapy has been used by health practitioners all over the world for almost 30 years. Most of the initial research and published data, which spanned the late

1970s to early 1980s, was from Russia. Later, as more papers were published, various medical organizations and government agencies all over the world (including the National Aeronautics and Space Administration in the United States) began using this modality as well.

Both lasers and LEDs can be made to produce any color wavelength. The color—whether it's red, green, blue, or another hue—is not due to glass, paint, or pigment. It's solely the wavelength of the light itself that gives the beam its characteristic color. The wavelength is always a single-color frequency, known as *monochromatic*. Although some types of lasers include mechanisms that emit heat in the form of invisible infrared radiation, for this discussion we are interested in lasers and LEDs that utilize monochromatic visible light only, and in the *red* spectrum. Monochromatic light treatment is commonly known as phototherapy. Used properly, red wavelengths may be the most versatile of all the colors.

Lasers and LEDs differ in some important ways, but they also share similarities. Both technologies are based on the energetic behavior of electrons. Normally, electrons occupy a fixed place in one or more orbital rings that sequentially surround the atom's nucleus. When they become excited, electrons move faster and jump to higher orbits. When they relax and return to their original position, electrons release energy in the form of photons (light units). The wavelength of a photon—its color—is determined by the amount of energy released when the electron drops to a lower orbit. *It is this emitted light that is harnessed in visible light laser and LED technology.*

Lasers and LEDs occupy a certain range of frequencies (frequency band) in the EM spectrum, but the frequency being used is almost always identified by the length of the wave rather than the frequency (designated in hertz). In the band of visible light, wavelengths are measured in nanometers, abbreviated nm. One nanometer, the length of one complete wave, is one billionth of a meter and roughly about the size of a human cell.

Lasers and LEDs that emit a red color range from about 620 nm to 670 nm or 700 nm, depending on what source you consult. Some clinicians prefer a 660-nm wavelength, asserting that this length wave is easiest for the tissues to absorb. Others prefer a ruby red 630-nm or 635-nm wave, based on research published in the *Journal of Clinical Laser Medicine & Surgery* stating that a 630-nm wavelength appears “to be most commonly associated with bacterial inhibition. The findings of this study might be useful as a basis for selecting LLLT [low level laser therapy] for infected wounds.”³⁴ In this case, “bacterial inhibition” consists of the retardation of the growth and functioning of pathogens. “What is good for the body is usually bad

Brief Guide to LED Colors and Their Effects

- ◆ **Red (620–700 nm).** Energizes. Renews all cells including skin. Reduces pain and inflammation. Grows hair. Improves circulation. Kills pathogens (at 630–635 nm).
- ◆ **Orange (595–620 nm).** Energizes. Heals and normalizes skin. Normalizes emotions and focus.
- ◆ **Yellow (575–595 nm).** Energizes. Restores nerves, especially motor nerves near skin. Reduces swelling. Repairs digestion. Improves concentration and mood.
- ◆ **Green (490–575 nm).** Energizes. Reduces inflammation. Improves collagen. Decreases wrinkles and acne. Renews cells. Decreases stress and difficult emotions.
- ◆ **Blue (455–490 nm).** Kills bacteria and fungi. Tightens and normalizes skin. Decreases pain and inflammation. Lessens headaches. Soothes.
- ◆ **Violet (390–455 nm).** Heals skin conditions of all kinds, including wrinkles. Energizes mental faculties.
- ◆ **White (390–700 nm: contains all the other colors).** In other words, sunlight! Energizes. Increases collagen. Improves focus, alertness, motivation, and cognition. Decreases pain and inflammation.

Nanometers are approximate; colors blend together.

for pathogens,” remarks Gerry Graham, a US chiropractor who administers laser therapy. “For example, the right pH for the body is the wrong pH for pathogens. Similarly, 635 nm is the worst wavelength for most pathogens but is beneficial for human tissue.”³⁵

Regardless of the specific favored wavelength, researchers and practitioners who use red light find that it works on the principle of *biomodulation*—turning a cell's function on or off through physiological means. Monochromatic red light stimulates blood circulation, increases lymphatic drainage, and promotes cell metabolism by stimulating photoreceptors in the mitochondria living within the cell. (Mitochondria are tiny living organelles with their own DNA and reproduction cycles, which live in symbiotic harmony with the cell, and control many important cellular processes including energy production.) Except on the eyes in the case of a laser (explained in a moment), the light can be applied to every part of the body: skin, soft tissue, muscle, bone, brain, organs, lymphatic fluid, glands, and blood. Used over an artery, the light can improve the condition of immune cells—leukocytes, T-cells, and B-cells within the bloodstream—so they can more efficiently disable pathogens.

Dr. Tiina Karu, professor of Laser Biology and Medicine in Russia, is reported to have discovered the following:

There are photoreceptors at the molecular-cellular level which, when triggered, activate a number of biological reactions: DNA/RNA synthesis, increased cAMP levels [cyclic adenosine monophosphate, a molecule involved in many biological processes], protein and collagen synthesis, and cellular proliferation. The result is rapid regeneration, normalization, and healing of damaged cellular tissue. In essence, light is a trigger for the rearrangement of cellular metabolism.³⁶

Single-wavelength light maintains its integrity while radiating. Its ability to travel along the meridians of the body without being dispersed into the surrounding tissues makes it useful for Chinese medicine treatments. A phototherapy device can be built to house a single light or many, but only one wavelength at a time should be shone on the body. Only monochromatic light affects the photoreceptors. If different wavelengths are simultaneously applied to the tissue, the cell receives conflicting signals and cannot respond properly.

LEDs and lasers can also be pulsed so that for a duration of time at regular intervals, the beam is on, off, on, off, on, off, etc. Pulsing the light stimulates healing. A continuous, steady emission (no pulse) sedates pain.

To produce light, a laser diode can contain argon, helium, neon, or krypton. The monochromatic light emitted by the lasers under discussion is *coherent*. This means, from a physics standpoint, that all the peaks and valleys of the waves line up. The waves are high at the same time, and low at the same time (Figure 11). In practical terms, this means that the light is directional and focused—or *collimated*—instead of scattered. This optical arrangement provides the intensity and precision of the beam and is probably the most expensive component of a laser diode assembly.

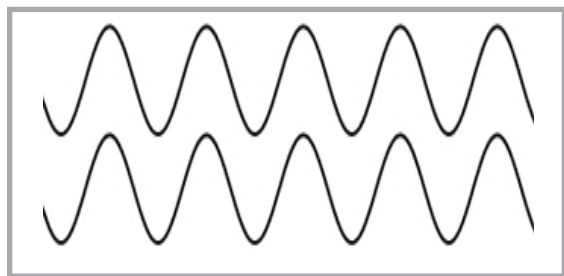


Figure 11: Coherent Waves (In Phase with Each Other), an Alignment Found in Lasers

Not all lasers utilizing red light have the same effects. Most people are familiar with the high-intensity, high-power “hard” lasers that are used by industry (to cut through steel and other metals) or by doctors (used during surgery to make clean cuts into the body, cauterize wounds, and remove unwanted tissue). These high-intensity lasers are legally restricted devices because of the damage they can cause. They’re also not therapeutic.

Genuine low-intensity, low-power lasers—also called “soft” or “cold” lasers—emit far less power than their restricted high-intensity counterparts. Their use for healing is also known as *Low-Intensity Laser Therapy* (LILT) or *Low Level Laser Therapy* (LLLT). The legal standard for what constitutes a low level laser can be confusing, however, because in some countries, a device legally classified as a LLL has enough power to heat tissue. Some laser therapists maintain that devices affecting cells through bio-modulation should not be categorized with devices that heat tissue. Australian laser experts Kerry Tume and Sean Tume suggest the following standard: “the energy output is low enough so that the treated tissue does not rise above . . . normal body temperature.”³⁷ Some practitioners allow only up to a 0.1 degree Fahrenheit increase in temperature. Otherwise, the device becomes too hot and has different (and undesirable) effects. Here is an instance, Graham points out, where “less can be more. Most people still fall for the idea that if 10 mW [milliwatts] will do a job in ten minutes, then 100 mW will do the same job in one minute, and 1000 mW will do the same job in one-tenth of a minute. But this isn’t true. The majority of lasers used for meridian therapy use [excessively high-powered, tissue-heating] infrared lasers. With these instruments, you can damage the meridians and over-stimulate tissues.”³⁸

Pulse is a popular term referring to the number of times the beam of light is turned on and off in one second (though the more precise term, used by engineers, is *gate*). The pulse rates can be as low as one, or as high as 1,000,000, in which the light is being turned on one million times and then turned off one million times each second. “Even though the eye cannot detect movement above 45 Hz or so,” Graham explains, “the body’s tissue can clearly detect and recognize these pulse rates in the tens of billions per second.”³⁹ Numbers commonly used as rife technology frequencies are often applied as laser pulse rates, and the effects are similar.

Laser therapy works on many types of conditions: injuries to ligaments, tendons, nerves, and other tissue; skin conditions; bone problems (such as osteoarthritis); first, second and third degree burns; dental problems; infections including herpes; and of course chronic pain.

The laser beam can be applied without risk to almost any part of the body (including trigger points and fascia). However, due to the precision of the beam, care must be taken to avoid shining the device directly into the eyes or even on the closed eyelid, because this can cause tissue damage and even blindness.

Now let's talk exclusively about LEDs. LED is an acronym for *Light Emitting Diode*. It's sometimes erroneously called a soft laser or laser, which it is not: the monochromatic light emitted by LEDs is *incoherent*. This means, from a physics standpoint, that the waves are emitted at random intervals because the peaks and valleys of the waves do not line up (Figure 12). In practical terms, this means that the light is multi-directional and diffuse, *not* directional and focused (collimated).

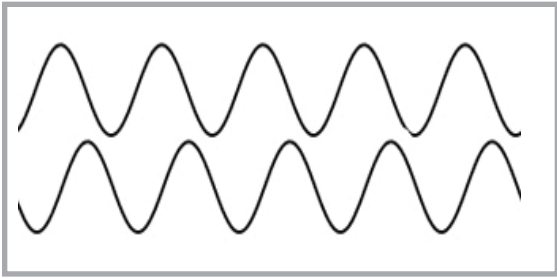


Figure 12: *Incoherent Wave (Out of Phase with Each Other), an Alignment Found in LEDs*

The lack of beam coherence and precision makes LED therapy safe enough to be used even by children—and difficult to abuse. The advantage of LEDs over lasers is their ability to be used directly on the eyelid to regenerate injured eye tissue. Also, an LED array is much less expensive than a soft laser. It too has widespread applications. “In Israel,” report Cocilovo and Rosen, “medical doctors utilize incoherent light transmitted by light emitting diodes (LEDs) in the practice of neurology, dentistry, dermatology, physiotherapy, and in cosmetic applications to promote collagen and elastin formation.”⁴⁰

Until the 1980s, low-level lasers were used almost exclusively for phototherapy because researchers thought that the light needed to be coherent, and prior promising research with incoherent light was nearly forgotten. Subsequently, some clinicians determined that coherency did not make a huge difference. “Dr. Karu,” write Cocilovo and Rosen, “contends that coherent light is not necessary, that incoherent light is equally effective at producing clinical results. Furthermore, she found that coherent light is converted to incoherent light in the body. The exact effect depends on the wavelength, dose, and intensity.”⁴¹ There’s a question as to whether these conclusions were based on

in vitro or *in vivo* research; the effects of light can be different in a culture than a living body. Nevertheless, enough users report benefits with LEDs to warrant its further investigation as a serious therapy. There is one anecdotal report, however, that cannot be contested. This author successfully treated a scratch on the cornea with a single-diode LED after a piece of plastic fell into her eye. After one hour of holding the light onto the closed, tearing eyelid, the pain and tearing were gone, vision was unaffected, and no more problems occurred.

A few decades ago, LEDs were not too common. Now, the average consumer can purchase them for a few dollars in any electronics supply store or online. However, the more expensive LEDs tend to be better quality, with a more precise output.

ELECTROMEDICINE: FAR INFRARED HEAT

Far Infrared (FIR) is a minuscule subsection of the Infrared (IR) portion of the electromagnetic spectrum. The IR and especially FIR bands are known for providing heat, and this is where our focus will be for this section.

Heat therapy is thousands of years old. Whether the heat source was a dry sauna, steam bath, or hot water bath, the ancients understood that when people perspire, they feel better. We know today that sweating is one of the body’s chief methods of eliminating waste, whether exogenous (from outside the body) or endogenous (from inside the body). Poisonous chemicals, heavy metals, and metabolic wastes are routinely trapped by the body’s tissues, especially the fat cells—which encapsulate the toxins to protect the bloodstream. These toxins not only exacerbate illness; in many instances, they cause illness.

The chemical load we carry was dramatically illustrated during a Spring 2001 Public Broadcasting System (PBS) special about the chemical industry’s suppression of evidence that their own products cause cancer. When newsman Bill Moyers had his blood drawn and analyzed, his blood sample contained over eighty common industrial chemicals, including alcohols, solvents, pesticides, petroleum-based synthetics, PCBs, and Persistent Organic Pollutants (POPs). Given this eclectic and horrifying sample, it’s easy to see why so many people today are ill.

During sweating, the fatty tissue vibrates faster, dumping its toxic load into the interstitial fluid (outside and between the cells). These interstitial wastes—which normally would have to be processed by the lymph system, urinary tract, and/or liver—are released through the

pores of the skin. This lightens the elimination burden of these other systems, giving them a chance to rest.

Sweating does more than eliminate toxins. It raises the pH of some portions of the body to a more alkaline state because chemical wastes and the products of cell metabolism are generally acidic. Although sweat therapy is not identical to having a fever, there are similarities between the two. When infected, the body produces a fever to “cook” pathogens, most of which cannot survive in temperatures of over 103°F or 104°F (39.4°C or 40°C). Sauna therapy can also make it too hot for pathogens to survive if the core temperature is raised enough. During fever, more endorphins (natural pain killers) are produced by the body. This, too, occurs during sauna therapy, which accounts for its pain-relieving benefits. During fever, the body produces more enzymes, which the white blood cells need to destroy pathogens. This occurs during sauna therapy as well. In a sauna, the heating of the body alone helps to relax the nerves and tissue fibers.

Modern scientists have discovered that the *source* of heat used to make us sweat can make a difference between highly effective and less satisfactory detoxification. Dr. John Harvey Kellogg, famous for creating breakfast cereal, is less known for having invented the electric light bath that preceded today’s FIR sauna cabinet. (The electric lights he used for the cabinet were supplied to him by his friend, inventor Thomas Alva Edison.) Even less publicized are the sophisticated tests he conducted in the early part of the twentieth century. Using devices he invented, Kellogg measured the toxins in the urine and sweat of healthy volunteers who took Russian baths, Turkish baths, and sessions in the doctor’s own electric light cabinets. The light bath encouraged the release of more toxins than did the steam cabinets. And the test subjects also became hotter, faster, because *the heat waves from the light bulbs in Dr. Kellogg’s sauna were in a particular far infrared range*. Far infrared contains among the most beneficial EM frequencies that the body requires for growth, repair, and health.

The amount of FIR emitted by a body or object is part of its electromagnetic signature. The movements of atoms and their constituent particles—as well as the movements of the chemical bonds between molecules—change direction, rotation, and orbit, depending on their frequency. These changes also correspond to alterations in the electrical and magnetic fields that they emit.

Far infrared wavelengths range from about 5.6 to 1000 microns. For healing purposes, we are interested in only a tiny portion of the FIR spectrum, which ranges from about 5.6 microns to 9 microns in length and radiates heat from about 470°F to 120°F (243.3°C to 48.9°C). (The

shorter wavelengths are hotter.) A heat source that emits a particular, narrow band of FIR is the most effective for sauna therapy. Not surprisingly, a wavelength of about 9.35 microns corresponds to a temperature of 98.6°F (37°C).

Water molecules are very efficient absorbers and emitters of far infrared radiation that’s about 9 microns in length. This wavelength also causes water clusters to become smaller, more motile, and more easily absorbed into the tissues. Put another way, water *intrinsically resonates* within these particular wavelengths. Whereas other EM spectrum wavelengths (such as the much longer radio waves) pass through water, a 9.4 micron far infrared wavelength will be absorbed by the water itself and cause its temperature to rise. People’s ability to absorb and emit FIR is related to the ability of water to absorb and emit FIR. The human body is comprised of nearly 70% water, which helps to explain why people respond in such a positive way to FIR.

For the vast majority of people, FIR is the most effective means of inducing a sweat. There are many good FIR saunas on the market today. For more information, see *The Holistic Handbook of Sauna Therapy* by Nenah Sylver.

ELECTROMEDICINE: SOUND THERAPIES

Sound as Mechanical Motion

Sound and music therapies have existed for centuries. In the last several decades, tuning forks, crystal and metal bowls, classical music from certain European composers, and sounds from nature such as bird songs, a steady rain or the ocean, have become popular for soothing the soul and emotions, even if obvious physical healing doesn’t occur.

Sound cannot be heard in a vacuum. It is commonly defined as existing only if there is a medium, such as air or water, to carry the vibrations. However, *all frequencies on the electromagnetic spectrum—regardless of their form—have a corresponding sound or tone, even if it does not transmit through air or water and even if we are not capable of hearing it*. This may be the origin of the phrase, “music of the spheres.”

During the educational seminars I give on Rife Therapy and electromedicine, people often ask if tones can be substituted therapeutically for various EM waves. The answer is “Perhaps.” Inaudible EM waves can be translated into audible tones by mathematically calculating lower or higher octaves of the original frequencies to bring them into the range of human hearing. Although any frequency can be converted or translated into sound, the sound might not have the equivalent therapeutic value (if any).

However, sometimes the healing effects are impressive (if unexpected), and sound will turn out to be the best delivery system for what's needed.

Ultrasound and infrasound are already used to a limited extent. *Ultrasound* is labeled as frequencies from above 20,000 Hz to a few Gigahertz—a range that's higher than what most human ears can typically perceive, although young people and adults with excellent hearing can actually hear a 20,000-Hz signal. Bats produce very high pitches for *echolocation*, where sound waves bounce off objects in their environment, allowing them to gauge distance and “see” in the dark, even reading their prey's internal structures. Most people are familiar with using ultrasound for diagnostic purposes, such as taking a picture of a fetus in the womb (which, contrary to popular belief, isn't safe, as discussed in Chapter 1). Doctors use ultrasound therapeutically to break apart calcified stones in the body; but unless it's used with care and at very low power, ultrasound can damage the tissues.

The much lower-frequency *infrasound* is labeled as frequencies lower than 20 Hz, which is typically inaudible to the human ear (especially at frequencies lower than 16Hz). Whales and elephants use infrasound to communicate with one another. The military, imitating what comes naturally to some animals, uses machines to transmit classified data on those low-frequency channels. We also use infrasound equipment to detect volcanic eruptions, thunderstorms, earthquakes and human-made explosions—again, imitating with specialized equipment what animals can do naturally. At a certain strength and frequency, infrasound can cause the human eye to vibrate, leading to distorted vision and optical illusions. Similar low-range frequencies have also been cited as instilling fear and dread in people. Many people feel infrasound in their body, even if they can't consciously hear those low frequencies. A few companies have created low-power infrasound equipment for the layperson, to relieve pain, reduce inflammation and increase circulation. The equipment is reported to mimic the healing, low-frequency sound waves (8 to 14 Hz) that are naturally emitted by practitioners of the Chinese art of Qi Gong. However, as such equipment is outside the understanding of allopathic medicine, it's not being widely used.

Despite the abovementioned applications, sound has not been used very much as an electromedical modality. Following are two unique methods of delivering sound to the body in safe, healing ways. The first uses inaudible sound, made audible, to analyze; and then audible sound to correct. The second uses acoustic pressure waves (which happen to be audible) to treat a number of conditions, many of them serious.

VoiceBio™

We know that every organ, gland, and tissue in the body emits EM radiation, and that this radiation corresponds to tones which we might hear if they were in an audible range. New technologies are based on this knowledge. One is from biologist David Deamer. He decoded and translated some of the vibrational frequencies from portions of DNA into audible tones; and musician Susan Alexjander later added voice and instruments for a CD. Scientists have begun using acoustically translated DNA in a number of novel experiments. In one, the tones emitted by live and dying yeast cells have been recorded and placed on some Internet websites.

From this background comes VoiceBio™, a unique use of sound, which was first developed in 1995 by naturopath Kae Liu Thompson. VoiceBio™ is a non-invasive way of analyzing the function of organs, glands, and various body systems, based on the tones (EM radiation) they emit. If we could hear the symphony expressed by a living body, we would hear the liver vibrating to the note of G, the heart vibrating to the note of A#, and so on. Thompson discovered that the body's frequencies are reflected in the voice, no matter which octave the person uses when speaking or singing.

In an ideal world, each of the 12 notes of a scale would be represented on a graph of the voice (called a voiceprint). But due to poor diet, trauma, injury, infection, chemical poisoning, or a combination of these, most voiceprints show unequally represented notes that have huge variations beyond the normal, expected, uneven “bell curve.” The notes can all be present (thus falling within the range of good health) or be overemphasized, weak, or missing entirely from the voice (thus falling within the range of compromised health). Assessing the heavy, normal, and weak areas of a voiceprint can help pinpoint which body parts or systems are off-balance.

For the VoiceBio™ assessment, the client records a voice sample into a sensitive microphone connected to very small piece of proprietary equipment attached to a computer. The software sorts, translates, and graphs the tones (ignoring word content) onto a voiceprint that quantifies the frequencies, and the graph is displayed on the computer screen. It was developed because Thompson found that the sound cards in computers are unreliable, sometimes varying as much as two tones in accuracy. The act of sampling the voice takes under ten minutes.

There are several ways to supply the body with the balancing frequencies. The client can listen, through stereo headphones, to a palm-size tone box (called a “sonic balancer”) encoded with personalized sound formulas.

Derived by Thompson using complex mathematical computations, the sound formulas are different for every person—even those who need the same notes—since they are based on how the client’s brain is fundamentally organized. Although the VoiceBio™ sound formulas are subjectively experienced by the conscious ear more as white noise than patterned pitches, the effects are like healing music rather than disorganized noise, in part because the notes are in the very low range of human hearing. Most important, the tone boxes can be programmed so that the brain learns to produce the weak or missing notes on its own. This brings VoiceBio™ therapy into the realm of holistic self-regulation, rather than allopathic substitution. The client can also listen to the missing notes as either straight musical tones or music in that key. In the case of overemphasized notes, the VoiceBio™ practitioner suggests detoxification and cleansing of the corresponding organs and systems.

The most powerful effect of all, however, occurs when the clients themselves generate the needed tones by singing or humming. (It also makes the therapy cost-effective for the client.) One might think that a highly depleted or stressed individual cannot muster enough energy to hum, and that the very ill need a “jump-start” from an external source, such as the sonic balancer. However, the reality is “quite the opposite,” Dr. Thompson states. “The very ill see the fastest results by even humming the note for just a brief period a day. I have *never* found a client who could not hum something. Trials conducted in the past year in four states show that having the clients do it themselves is more effective than the sonic balancers by over 200 percent.”⁴²

Usually, after a month, the client is retested to see if the same formula is needed, if a different formula is needed, or if the client needs to continue at all. Although results to sound therapy can be felt within days or even hours, the listening or humming continues over a period of weeks and even months, depending on the severity of the condition and the person’s ability to respond.

Thompson’s discovery that all notes correspond to specific nutrients and drugs (as well as body parts and systems) brings another level of specificity to VoiceBio™. A voiceprint helps the practitioner pinpoint which nutrients are most needed by the client. (The nutrients may have an obvious relationship to the organs or glands whose notes they share, but sometimes they do not. Nevertheless, the system works.) Thus, nutritional support in the form of vitamin, mineral and herbal supplementation is integrated with the VoiceBio™ therapy.

The voiceprint can also show which pharmaceuticals might be useful. If the client is taking a drug whose frequency matches a note that is already too high, continuing to take the drug can further stress the note.

However, the voiceprint can help determine the drug that may be better suited to the client, if there is another drug that produces the same (desired) effect but resonates in a note that’s too low (or at least not as high).

It’s important to emphasize that there are many nutrients that resonate in any given note (C, C#, D, etc.), because each note has a *range* of cycles per second. (Historically, what precisely constituted a given note depended on the country and era.) However, the frequency of each nutrient is extremely precise, which is why any transmission device must be accurate to the second decimal point. Thompson devoted many years of research (and expensive laboratory tests) to find the frequencies of nutrients (vitamins, minerals, amino acids, fatty acids, etc.) as well as toxins and drugs. Some sound treatment systems have posted nutrient frequencies on the Internet that are incorrect, because they compute frequency based on the molecular weight of the elements that comprise the nutrients, rather than on the wavelengths themselves. (Weight measures how heavy something is, and has nothing to do with oscillation or frequency.) Like most electromedical therapies, sound protocols attain the best results with the exact frequencies.

Healing in this way with sound will become imperative if global government restrictions to supplements become even more severe than they are now. People could assimilate the frequencies of their chosen supplements via headphones, or even sound recordings. This user-friendly modality does not make medical claims, so it can be implemented by laypeople as well as health practitioners.

Wave Therapy

Even to those accustomed to using electromedical devices, a non-portable machine that heals using low-frequency acoustic pressure waves may seem unlikely. The story of how acoustic wave therapy was developed would seem like an arresting piece of fiction if it weren’t true.

Wave Therapy wasn’t initially designed as a healing modality. Two decades ago, electronics engineer Alphonse Cassone sought a new and efficient way to extract minerals (especially gold) from soil. The medium he selected, sound, required a powerful speaker. So he selected one used for SONAR (an acronym for *SOund Navigation And Ranging*), typically used by the Navy for submarine navigation. When submerged in water, a SONAR speaker (also known as a *transducer*) amplifies sound more rapidly and strongly because sound travels faster in water than in air. Cassone’s specially designed transducer was not only omnidirectional, but it caused compression waves in the air once the waves left the water.

Cassone maintained the speaker in a clean, water-filled oil drum in his garage and experimented daily. Because the machine emitted a distinct, steady, high-pitched tone, it didn't take long for his elderly next door neighbor to knock on his door. However, this wasn't a noise complaint. The neighbor, who had severe arthritis in his knees, had been experiencing less pain as the days passed and wanted to know what Cassone was doing. Cassone initially didn't believe him, but because the man insisted and wouldn't take "no" for an answer, he was allowed to sit alongside the equipment each day. The neighbor was soon able to walk more easily, with long strides. Baffled, Cassone began intercepting strangers on the street and inviting them to his garage for an acoustic wave session, after which he quizzed them about how they felt. To transmit the optimal amount of energy, the engineer experimented with different frequencies and durations. He also had to factor in the intensity of the signal, the viscosity of the liquid, and size of the tank. He eventually settled on a 600-Hz signal (although not before exploding about two hundred transducers in his attempts to produce exactly the signal he wanted).

Before long, word spread of an amazing machine and townspeople arrived unannounced at the garage. As more folks visited—some of them from across the country, thanks to an enthusiastic telephone network—Cassone decided to conduct informal tests. He wouldn't make any medical claims or promise his visitors that they could be helped, but he collected enough data to convince him that this modality might be useful for health conditions.

How do sound waves heal? We not only hear sound, we also *feel* sound. Similar to how an earthworm moves, sound moves by compressing and decompressing. If the *compression waves* are powerful enough, they can stimulate the *mechanoreceptors* on the skin—special sensory receptors or nerve endings that respond to mechanical pressure. The transducer Cassone built provides acoustic stimulation like a deep massage to every cell in the body.

Cassone applied for, and received, three patents for treating circulatory, blood-related medical, and musculoskeletal connective tissue disorders. Doctors from a local hospital, located across the parking lot from his new Las Vegas, Nevada office (he was no longer working from his garage) would wheel people just released from surgery to the office to be treated.

In 2002, "The effects of a low frequency acoustic waveform on peripheral vascular disease [PVD]: a pilot study" was published by University of Nevada researchers. The authors wrote:

Despite surgical and interventional advances, as many as 7% of all patients with PVD will go on to require amputation for critical limb ischemia [restricted blood supply to the tissues] within 5 years of symptom onset. . . . [Despite some problems with the design of the study, indicating that more experimentation needs to be done,] exposure to the acoustic waves at the designed frequency increased the blood flow velocity pre to post in all of the 10 vessels examined.⁴³

The researchers concluded that Cassone's acoustic wave modality performed much better than infrasonic treatments. A much later study, conducted in 2016, concluded that use of this modality "appears to improve ROM [range of motion] in various joints while decreasing pain in individuals diagnosed with OA [osteoarthritis] utilizing an audible low frequency acoustic waveform."⁴⁴

By 2016, Cassone's streamlined and patented Medsonix Transducer received clearance from the FDA as a Class 1 Medical Device. It falls into the category of "therapeutic massager" intended for medical purposes, such as the relief of muscle aches and pains. Wave Therapy, a Nevada company that holds exclusive worldwide distributorship rights, sells the device primarily to physicians, chiropractors, and other health care providers as well as sports teams. In addition, dedicated Wave Therapy clinics are operating. The clinics state that they serve clients suffering from:

- ◆ Cardiovascular conditions of all kinds, in which either the microcirculation or macrocirculation (or both) are impeded
- ◆ Cognitive dysfunction
- ◆ Injuries
- ◆ Fatigue and lack of energy, chronic and acute
- ◆ Pain and stiffness in any area of the body
- ◆ Headaches and migraines
- ◆ Immune dysfunction
- ◆ Mitochondrial disorders
- ◆ Nervous system problems, including lack of motor coordination, dizziness, and perceptual difficulties
- ◆ Restricted mobility
- ◆ Skeletal and disc issues, including back pain
- ◆ Wounds, including deep and slow-healing ones

Wave Therapy is simple to administer and receive. Clients sit around the completely enclosed, table-high vat of water that contains the specially designed speaker (transducer). People can nap, read, write, meditate, or simply rest. However, be aware that the machine emits a very loud, shrill tone; and even the noise-cancelling earphones that are provided (which clients can use to listen to music on portable players) may not be enough to deaden the noise. It's best to be within an 8-foot radius of the machine, but the patent states a 20-foot reach. This technology is safe for people wearing pacemakers, defibrillators, and any other type of implant (electronic or not) because it uses sound, not electrical current or magnetism, to broadcast the waves. Sessions typically last just under one hour, repeated bi-weekly or weekly.

Clients report different experiences. Most people feel the effects of the waves, while a few feel the pressure waves themselves. It's common to perceive a warm tingling sensation around the affected areas or sometimes throughout the entire body. Circulation may continue to increase and inflammation may continue to decrease after the session. However, while some people feel more energized during or immediately after the session, others experience fatigue for days afterward. According to the corporate sales office, although over three-quarters of Wave Therapy recipients report improvement after only one session, about one-quarter of fibromyalgia sufferers have increased pain for a period of time before it reportedly subsides. We don't know (yet) why this occurs.

The variety of client responses may be due to a number of factors. Mechanical energy, from the oscillations of the transducer, causes the tissues to move faster. This can increase metabolism as well as help the mitochondria (the fuel-burning units of the cells) utilize fuel more efficiently. The blood vessel dilation is probably influenced by increased nitric oxide production. We must also consider increased permeability of the cell membranes, which, according to tests conducted at two Wave Therapy clinics, is at least partially corrected in one session. (However, long-term follow-up studies have not been done so we don't know how long the correction lasts.)

In sick people, cell membranes don't function well. Electrical charges inside and outside the cells are weak, corresponding to altered and suboptimal levels of electrolytes (mineral ions). If the sodium and potassium ions are not in proper amounts and ratios inside and outside the cells, the person will not be properly hydrated. Excess water will migrate outside the cell and not enough water will be inside the cell. The waves help correct this issue, allowing nutrients to enter and wastes to exit. When the cells begin to metabolize properly, waste removal can be

overwhelming. This waste removal—which often causes a *Herxheimer reaction* (discussed later in **Detoxification Responses**)—can cause clients to feel more ill than they felt prior to a session. Many people develop flu-like symptoms, sweating and diarrhea, particularly if there's a longstanding history of infections. Therefore, people who experience extreme detox should wait until they feel better before attempting another session. When interviewed in 2013, Cassone suggested that the acoustic waves blast through deranged tissue, which would produce plenty of waste. It's also reasonable to assume that the waves could break apart biofilms.

The penetration power of the waves has enormous repercussions for people struggling with a heavy pathogen load such as Lyme and its co-infections. Some clients with Lyme disease say they feel better when nothing else has helped them. However, effects are unpredictable and uneven. Some Lyme sufferers don't experience results unless they receive double sessions lasting almost two hours, while others can tolerate only 20 minutes or less. The die-off of microbial waste and systemic toxins can be severe; so it's important that those with Lyme and other severe infections limit the number of sessions and the time allotted for each session. Lyme appears to be excessively difficult to treat with this therapy, while people with injuries such as sprains and broken bones show the most visible and impressive improvement. My own investigation suggests that Wave Therapy may be safer and far more useful for people with musculoskeletal and neurological conditions than those with severe infections, especially if the infections are systemic rather than local.

Currently, Wave Therapy is administered in the US, Canada, Mexico, and the UK. Official Wave Therapy clinics have no requirements to be staffed by medical personnel. However, a small number of health care providers have this equipment in their offices. Because the cost of a unit is close to ninety thousand dollars, the average layperson (or even health practitioner) cannot afford to purchase it. Therefore, Wave Therapy is unlikely to become a common self-help modality anytime soon (if at all). Nevertheless, it's helpful to know about it because some people obtain results when other modalities—both allopathic and complementary—fail. This equipment is still experimental, so we don't know how many sessions are required (on average) for which conditions, what type of subject responds best, and for how long the results last. More and rigorous scientific, third-party research needs to be conducted. A seriously ill person who wants to experience this modality should seek a licensed health practitioner to administer and monitor the sessions so unforeseen problems can be managed as they occur.

THERAPEUTIC PASSIVE ENERGY ITEMS

In the past few decades, a new category of health products, ranging from jewelry to personal care items, has emerged that utilizes frequencies. These products are imprinted: infused with information that is vibrational in nature. Electricity may have been involved in their imprinting, but unlike electromedical devices, these items don't rely on electricity or any other outside source of power to transmit the energy—they utilize the electricity already produced by the human body. These products are considered *passive energy* items. The energetic message with which they're imbued is passively transmitted, simply because the object is touching the body or near the body, which puts it in the range of the human aura or biofield. The *biofield* is commonly understood as the field of energy (not necessarily solely comprised of electromagnetic radiation) that suffuses and surrounds a living organism.

Imprinting is not an exotic or new concept. Since homeopathy was developed in the 1790s by German medical doctor Samuel Hahnemann, we have understood that virtually any liquid or solid—such as water, metal, and gemstones such as quartz—can be imprinted, or imbued with information in the form of an electromagnetic or longitudinal wave signature. Masaru Emoto, author of *The Message from Water*, showed how emotionally positive words such as “thanks” and “love,” typed on pieces of paper and placed under plain vials of water, structured the water differently than did emotionally negative words such as “angry” and “hate.” After all water samples were frozen, both the treated and untreated crystals were examined under a microscope. Positive words structured the water into lovely, six-sided crystalline shapes, while negative words yielded ugly, visually chaotic forms.

We currently use this technology every day without even thinking about it, with our computers, tablets, cell phones, automobiles, or any other gadget that depends on silica chips for processing. Therefore, it's reasonable that imprinting should be used in other, unique ways.

Tuning Element

Tuning Element is a United States technology company that manufactures three types of unique products: pain relief patches, jewelry (bracelets, necklaces, anklets), and water containers. These products are utilized somewhat differently, although their functions can overlap. The imprinted Tuning Element products provide three main functions.

- ◆ *Healthy cell and tissue support.* The supportive frequencies provide the correct information of how healthy tissues in the body are supposed to resonate, and are based on the resonances known to be emitted by healthy tissue. The company analogizes the healing to a set of tuning forks that are of the same frequency, only one is vibrating and one is still. When the vibrating tuning fork is placed next to the one that is still, the movement of the first *entrains* the second, or causes the formerly still tuning fork to resonate or hum in harmony with the original. Because the body naturally strives to resonate at the proper frequency, the Tuning Element products imbued with the restorative frequencies act an external reference point for the body. Thus, this passive technology helps optimize body and brain function, restores missing or reduced cell communication, and accelerates the body's natural ability to heal itself more efficiently.
- ◆ *Schumann Resonances.* These emissions are named after University of Munich professor Schumann who, in the 1950s, calculated the beneficial magnetic frequencies emitted by the Earth. Both humans and animals evolved in synchronous rhythm with the Earth's beneficial frequencies (a kind of natural “heartbeat”), but modern electrosmog has nullified these frequencies. The restorative Schumann Resonances (along with the frequencies for normal body tissue) remind the body to rebalance. All seven peaks of the Schumann Resonances are used. (Also see information on the VitaSet Generator under **EMF Protection**, following.)
- ◆ *Anti-pathogen frequencies.* These operate similarly to those emitted by an electronic frequency generator (see the **Plasma: Rife Therapy** section), except that these portable, passive energy products don't require electricity or batteries.

Despite the above functions, company founder Sean Martinez states that these categories are limiting—that although they “use organ support frequencies and few anti-pathogen frequencies, this is not our main focus on this technology. . . . We use ‘Pro-Life’ proprietary energetic blends that support and advance life. Another key is how the blends work together with in the body, mind, and biofield.”⁴⁵

Three of the company's best-selling product lines are described below. Understandably, no medical claims can be made for their products.

Patches

A different approach to pain than pharmaceuticals or even herbal analgesics, Tuning Element has created silicon-based, titanium salt-infused, 1.25" square patches. Applied to painful areas of the body with a little water, a thin layer of material adheres to the body like a temporary tattoo. However, there's no glue to cause discomfort and they can't be felt by the wearer. The patches last a few days to even a week, depending where on the body they're applied and how often they encounter friction. They don't fall off and can be worn in bath or swimming water. The patches don't contain lotions, creams, or any nano particles; they work strictly by sending vibrational information to the body. These patches contain frequencies for pain. Some of the frequencies (noted in Chapter 5) are 880 Hz (for pathogens), 220 Hz for body function support, and the fundamental Schumann Resonance, 7.83. (See **EMF Protection**, next section, for more information on the Schumann Resonances.)

In a 2017 study published by *IEEE Transactions on NanoBioscience*, the authors wrote:

Pain is a very complex biochemical and electrical process involving sensory part, nerve transmission, and brain perception of pain. We concentrated our research on nerve transmission, which is electrical signal along the nerve (axon). This electrical signal is created by a complex activity of opening and closing of pain related ion channels and redistribution of electrically charged ions on the nerve cell membrane. . . . The TERP patches . . . can resonantly absorb and damp[en] electromagnetic radiation from ion channel activation. This implies that such resonance can interfere with activity of pain related sodium ion channels, influence their opening and closing function and consequently influence pain transmission along the nerve (axon). . . .

A number of anecdotal reports have shown that [the patches] diffuse pain, including chronic, inflammatory and neuropathic . . . [and that they] offer a safe and cost-effective pain management.⁴⁶

The company emphasizes that anyone wearing their pain relief patches should drink the recommended amount of water daily to achieve the best possible results, as proper hydration is key to cell function. Water helps to flush out the wastes that naturally result from normal cell metabolism. Satisfied customers report a greater sense of comfort and relief from pain and illness, reduced swelling,

more energy, better sleep, more focus and better moods, greater range of motion, and more muscular strength. These benefits have enormous implications for people suffering from arthritis, nerve-related disorders (even ADHD), digestive problems, hormone imbalances and skin problems. One surgeon, Dr. Srbslov Brasovan of Chicago, Illinois, reports that clients who use the patches after surgery heal so much faster that they are on their feet in two weeks instead of two months.

Jewelry

Tuning Element's aesthetically pleasing jewelry line consists of bracelets, necklaces, anklets, and animal tags made of stainless steel, sterling silver, and gold. The jewelry is categorized according to five levels. Level One, Two and Three products are made of surgical stainless steel. Level One contains frequencies, devoted to tissue normalization and the Schumann Resonances, which stabilize the body's electrical system. Level Two contains the frequencies of Level One, with additional frequencies designed to support natural function and recovery processes. Level Three contains frequencies of Levels One and Two, with additional frequencies to fight pathogens and support cognitive function. People concerned about their health or who are facing health challenges often opt for the Level Three products. Level Four products, made of highly conductive sterling silver, contain the frequencies of the prior three levels, plus supportive frequencies for some (unspecified) energetic systems of the body. The one Level Five product, an 18-karat gold necklace, contains all of the frequencies of the prior four levels, plus supportive frequencies additional energetic systems. People seeking to support their whole body or who have serious health concerns may opt for Level Five.

The company also provides frequency-imbued tags for small and large animals. The technology is designed to last for the lifetime of the products. No maintenance is required; the person (or animal) simply wears the item.

As with the pain relief patches, people who wear the jewelry need to drink more water. Tuning Element has created a high-tech water bottle for this purpose (next).

Aqua Tune Water Bottle

The company makes bottles—glass with a silicone sleeve, and stainless steel—that contain frequencies for maintaining cell function of various systems (one bottle contains more frequencies than the other). Both styles structure water after one minute. Found *inside* all living cells, *structured* water is bioavailable, which somehow

makes it “wetter.” Water that’s not structured cannot enter the cell and remains in the space *between* the cells, causing unnatural edema in the body. Unstructured water must be energetically processed before it’s bioavailable. While structuring water does not create different elements, it does alter how the water behaves. Structuring water involves changing (sometimes very slightly) the angle of the hydrogen and oxygen atoms that comprise the water molecule. Aqua Tune water is also more oxygenated, even more so when the container is shaken.

The Aqua-Tune water further accelerates cleansing so that waste materials can more easily leave the cell and nutrients can enter. This naturally positively affects brain function and concentration. It also helps restore cell communication, assists with digestive, kidney and liver health, and accelerates the body’s overall natural ability to heal itself more efficiently. Increased consumption of any water helps eliminate the possible headaches, nausea and flu-like symptoms that are a normal result of detoxification. As with any detoxification protocol, more fluid in the blood reduces the poison-to-liquid ratio.

EMF PROTECTION

The earlier section, **Harmful Effects of EM Radiation and EM Fields** (also discussed in Chapter 1), addressed the hazards of living near major power lines, cell phone towers and electrical generators, as well as the effects of using everyday electrical appliances such as hair dryers and blenders. Part of the reason there are so many seemingly disparate and severe health problems is the lack of mineral absorption when people are exposed to harmful EM radiation. Four minerals that are critical for proper cell function, and which the body cannot absorb well when it’s saturated with electrosmog, are copper, magnesium, phosphorus, and zinc.

In our WiFi-saturated world, it’s almost impossible to avoid harmful EM fields (also called *electrosmog*). However, there are some effective technologies we can use to help protect ourselves from these harmful emissions. Some of these products are passive and don’t require an electrical outlet or batteries in order to be activated; they’re simply worn on the body or placed on the electrical appliance that we want to shield. Other products are electronic in nature. I’ll discuss the passive energy items first.

Tuning Element (Non-Electronic)

See “Jewelry” from Tuning Element under **Therapeutic Passive Energy Items** in previous section.

Eradicator Technologies (Non-Electronic)

The Canada-based company Eradicator Technologies (www.eradicatortechnologies.com) specializes in products that offer protection from dangerous electromagnetic fields. One of the products is a small chip that’s applied to various appliances, such as cell phones, computers, WiFi routers and various wireless devices, smart meters, stereo equipment, GPS systems, iPods and iPads, alarm clocks, hair dryers, television sets, etc. The company points out that these protective chips don’t affect the quality of any transmissions, but harmonize the electric and magnetic fields to eliminate low frequencies of radiation through the use of a zinc and copper formula.

What if you’re outside your protected house? Eradicator Technologies offers a variety of necklaces in its “Shield” line. According to the company founder, Alain Basic, each Shield is bombarded with high-energy photons that cancel out harmful frequencies. The Shield is also said to remove radiation that’s already stored in the body. All of the jewelry is imprinted with a symmetrical design, but Basic emphasizes that the design itself possesses no intrinsic power—that it’s simply the company’s logo, and it’s the high-energy photons that give the metal its protective properties.

The Eradicator Technologies website displays two video clips of live blood samples viewed through a dark field microscope. In the first sample, the subject is holding a cell phone. We can see the effects of the phone radiation on her red blood cells, which are clumped together, devoid of oxygen and vital electrical charge. (Normally, the red blood cells remain separate because their electrical charge is sufficient). In the second sample, after the subject has held the Shield for just five minutes, the red blood cells are normal, separate and charged.

Besides live blood cell analysis, Alain Basic advises, other methods can be used to assess the efficacy of his EMF protection products. These include Vega testing, electrodermal screening, biofeedback, and kinesiology (muscle testing).

People report subjectively feeling better when they use these products. Their lab tests, doctor visits, and quality of life confirm these reports.

VitaSet Generator (VSG) from Pulsed Technologies (Electronic)

Jimmie Holman, a former government scientist with a top-secret clearance, wasn't planning to become involved in EMF protection. He originally started his company, Pulsed Technologies, to build frequency equipment ("rife" machines). However, when mandatory smart meters were installed in his neighborhood and he started feeling unwell, he created the VitaSet Generator (VSG) to help his body resist the negative impact of electrosmog.

The slim, 7.5" × 9.5" × 1.5" microprocessor-controlled VSG emits *Schumann Resonances* to help those affected by high electrosmog environments. The beneficial resonances of Earth's magnetic field are named after Professor Winfried Otto Schumann of the Technical University of Munich, who calculated them in the 1950s. Approximately fifty lightning flashes bombard the Earth every second, creating an electromagnetic wave of charged particles between the Earth's surface and about 60 miles up.

For hundreds of thousands of years, humans and animals evolved to this "repeating heartbeat" of energy flashes. Our brainwave frequencies are integrally tied to the rhythms of Earth. In fact, the Schumann Resonances are essential for proper DNA signaling and numerous biological functions. The lowest, most intense of these resonant frequencies occurs at approximately 7.83 Hz; but there are higher beneficial peaks too, spaced at approximately 6.5 Hz intervals: 14.3 Hz, 20.8 Hz, 27.3 Hz, and 33.8 Hz. These frequency peaks, although affected somewhat by various atmospheric and solar phenomena, remain relatively stable.

Before 1900, the primary electromagnetic (EM) field in the environment was a magnetic field, from the Earth itself. Today, however, competing, concentrated, abnormal electrical stimulation—from high voltage power lines to WiFi—interfere with the body's ability to tap into, and be nourished by, these natural Earth frequencies. In fact, our ability to detect and utilize these resonances is heavily impaired, due to the invasion of millions of harmful EM fields all around us.

The VSG is designed to remain on constantly (unless it's switched off) in the house, office or automobile in which it's placed. The machine has two modes, day and night. When in the day mode, the VSG delivers the five primary natural Schumann Resonances. When in the night mode, the machine cycles through select subharmonics of Schumann Resonances corresponding to appropriate regenerative brainwave states to help induce sleep (via brainwave entrainment). The VSG can be set to automatically switch between modes each day. Or, it can be manually overridden when desired. It operates on universal AC or batteries for travel.

MISCELLANEOUS: PHOTONIC TRANSMISSION

In today's world of rigid regulations governing the approval of a device for medical use—not to mention the prohibitive cost of securing the approval—creative thinking is required to build therapeutic equipment. The Hydration App and the L.I.F.E. App were born when an ordinary piece of technology was adapted to deliver extraordinary benefits for which that technology was not originally designed. Neither of these technologies falls into any of the categories so far discussed in this essay.

These two apps are the Hydration App and L.I.F.E. App from Cell Wellbeing—and they transmit frequencies through an ordinary cell phone, using the phone's flashlight feature! Simply download the app onto your phone and shine the flashlight for a couple of minutes into a container of water or other liquid (depending on which app you're using). The results are profound, and belie the simplicity and convenience of how the frequencies are delivered. The apps, says the company's website, transmit frequencies that improve the health of the user "due to structural rearrangement of the quantum energy field."⁴⁷

The Hydration App creates structured water, also known as *exclusion zone* or *EZ* water (see **Water** in Chapter 3). The water molecules become symmetrical in structure, which means that not only is the water "wetter" (thus entering and leaving the cells more easily), but it has much better oxygenation properties. While the body is becoming more hydrated, water, coffee, tea, juice, and other liquids have a sweeter taste. Even lemon juice feels smoother and is easier to drink. Customers put the water into a spray bottle and periodically mist themselves to gain more energy. The mist can also be used for plants and cut flowers. Even face creams and tinctures work better when prepared with Hydration App water. There is no limit to this water's uses.

The L.I.F.E. App frequencies, similarly infused into water, are used specifically for sensitivity to electrosmog (EMF). Such water is misted onto the body using a spray bottle. The user should immediately feel more refreshed and alert, as one might feel next to a beneficial negative-ion waterfall. Because ultraviolet light ultimately degrades the frequencies in the water, a dark blue spray bottle is suggested, which will keep the water viable for about two days. As a bonus, after using this app twice a day for one week, your cell phone itself will become impregnated with the frequencies that harmonize the EMF.

The app developers worked hard to make sophisticated healing technology—with profound benefits—available to everyone for less than the cost of one fancy cup of coffee per month. Now, everyone can feel better.

DETOXIFICATION RESPONSES

A *Herxheimer reaction*, named after the doctor who catalogued it, is a detoxification response that occurs as a result of waste materials being released into the system. Any therapy that encourages normal cell metabolism will release toxins: as nutrients enter the cell, wastes leave. Wastes that have exited the tissues can cause symptoms until the body excretes them. Some people who use electromedical and other holistic therapies mistakenly believe that if they feel bad, it's because the therapy is flawed. However, the therapy is merely doing its job.

For people undergoing a detox response, one can assume that pathogen wastes and other toxins are being released into the bloodstream. The first thing to do is drink more water. Along with the water, it's helpful to take at least 1 heaping teaspoon of activated charcoal to help bind the toxins in the gut and prevent them from being redistributed by the bile. (The equivalent amount of activated charcoal can be taken in capsules—at least 6 is a good start—although the charcoal will do its work in the gut much more quickly if there's no wait for the stomach acids to first dissolve the capsules.) At least 1 gram of Vitamin C is ideal for antioxidant and cell membrane protection; make sure it's buffered to avoid an upset stomach. Protease (an enzyme) is also useful to scavenge protein wastes; 2–3 capsules should suffice.

Sauna therapy, especially in conjunction with niacin (see pages 484, 696, and 911), will help the body excrete heavy metals and other contaminants that may have been dislodged. This may be one of the most important methods of cleansing that you can utilize. People may also choose to take herbal antimicrobials (berberine, grapefruit seed extract, haritaki, moringa, oregano and wormwood, among other substances); extra zinc for immune support; organ support glandulars; and calcium bentonite clay water to help alleviate symptoms and mop up the extra waste that has been released into the system.

One more thing. It's possible that a person might be responding negatively to the emissions from a piece of equipment, rather than experiencing Herx reactions. This may be especially true if the equipment is emitting too high a level of electrical current; if its magnetic field is too intense; or if radio frequencies (RF) are involved in conveying a signal. A Herx reaction, while it can feel strong, should not go on indefinitely. You should see some positive changes after a reasonable period. If you suspect that you might be responding negatively to a modality itself rather than to any debris that's being elicited, consult an experienced health practitioner at once.

MANY APPROACHES, SYNERGISTIC EFFECTS, ALL BIOCOMPATIBLE, ONE GOAL

The body is comprised of EM radiation. It emits EM waves and responds to EM waves. Biological functions correspond to both electromagnetic phenomena and other energies that aren't in the EM spectrum.

Electromedicine covers a vast territory of different energies. The therapies reviewed here—EM radiation, electrical current, oscillating and pulsed magnetic fields, visible monochromatic red light, and FIR (perceived as heat)—are only a few examples. Another example is sound. Although conventional physics does not regard sound as part of the EM spectrum per se, audible sound and compression waves can also be utilized for healing, especially as each tone has a frequency, and every frequency in the EM spectrum would have a corresponding sound if we could hear it.

As we have seen from the small sampling of electromedical approaches and specific equipment, although there's an overlap in their effects, many of them operate differently from each other because they utilize different wavelengths and frequencies on the EM spectrum. Also, some are gentle, while others impact the body more strongly. Some work locally (depending on where they're applied), while others offer a full-body treatment. Some devices can produce Herxheimer reactions more easily than others if they're overused.

One major difference between some of the equipment appears to be their focus: normalization of cell function vs. active devitalization of pathogens. For example, Frequency Specific Microcurrent (FSM) and the basic Avazzia™ instruments deal with cell function. Rife Therapy is targeted to devitalize particular pathogens, although some frequencies are specific to the revitalization of cells only, without directly affecting the pathogens. The Magnetex® clearly causes the release of debris, although it's still unknown whether this debris consists of pathogens, their biofilms, heavy metals, other wastes, or all three. The proper nanometer wavelength of an LED or laser will destroy pathogens as well as normalize tissue. The BEMER® does help with infections, to such an extent that diabetics with gangrenous tissue have avoided surgical amputation due to complete healing of the tissues. However, this tissue restoration is caused by increased microcirculation and not pathogen destruction per se.

One way in which Wave Therapy appears to work is by improving circulation and thus restoring tissue. It may help with the devitalization of pathogens by blasting through biofilms (even though its patent does not state this and these functions are part of its FDA clearance). Because of

these dual functions, great care should be exercised when using this modality. It's reasonable to assume that people suffering from injuries but whose health is otherwise fairly robust, can tolerate more time with the equipment than can those with serious infectious diseases. The likelihood of a Herxheimer reaction means that great care should be taken to ensure that detoxification channels (colon, kidneys, lymph and liver) are functioning well before one begins treatment. Such Wave Therapy subjects should also consider taking the appropriate supplements (discussed in the previous section, **Detoxification Responses**) to help the body mobilize and excrete the toxins that will inevitably be released as a result of the sessions. In fact, these substances are useful to take with any and all therapies that dislodge and discharge toxins from the tissues.

The complementary functions of these modalities gives us good reason to use more than one at the same time. For example, people with Lyme may benefit the most with Wave Therapy and/or the Magnetex® (to move toxic materials out of the cells), followed by Rife plasma sessions (to kill any pathogens that have now become accessible in the bloodstream). The Avazzia™ instruments can target specific injuries (such as a broken rib), and work nicely with LEDs. For pain, the patches from Tuning Element are the simplest to use. For infections, Plasma or PEMF Rife Therapy seems most appropriate, followed by a FIR sauna (which works well for most health issues), and so forth. Of course, EMF protection assists all other modalities, as it does not prevent beneficial frequencies from entering the body. For those who have trouble knowing what to address first, receiving an analysis from a VoiceBio™© practitioner seems prudent (and if desired, the appropriate tones can be used for healing after the analysis has been conducted). The combinations are vast. An experienced and skilled health care provider, or a layperson in touch with his or her body and needs, can use just two modalities to help with a huge variety of issues.

All therapeutic equipment is complemented with EMF protection, such as the jewelry from Eradicator Technologies and Tuning Element, or the VitaSet Generator from Pulsed Technologies. In fact, even those who don't need any remedial machines would be wise to use some form of EMF protection at all times.

It's important to emphasize here that even if results with different modalities are similar or apparently identical, not everyone responds equally to different delivery systems. Also, some people require one delivery system one day and a different one the next. This is why it's valid and proper to have so many different types of electromedical equipment to utilize.

Subtle energies can be extremely potent and have the potential to be utilized for healing. With the EM spectrum, when you target a living cell with the precise frequency it needs, it will respond favorably. The health restoration effects of correctly applied energetics are profound. As countless beneficiaries of electromedical therapies have proven, the correct energies, properly used, play an integral role in any wellness protocol. Electromedicine is truly the healing of the future. Whether you are a health care professional or a seeker of health, these therapies are indispensable for anyone who wants to enjoy a more vibrant and fulfilling life.



ENDNOTES

Appendix C

HEALING WITH ELECTROMEDICINE
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Published Studies in Electromedicine

*Don't worry about people stealing an idea.
If it's original, you will have to ram it down their throats.*

—HOWARD AIKEN, AMERICAN COMPUTER PIONEER AND PHYSICIST (1900–1973)

There are thousands of articles in medical and scientific journals on the use of electromagnetic fields, electric fields, electrical current, static magnetic fields, pulsed magnetic fields, frequency-induced diathermy (heat) and more, to treat all kinds of conditions, ranging from bone fractures and muscle sprains to Parkinson's and cancer.

Special mention should be made of treating cancer with hyperthermia: a simple, safe, and effective method. During hyperthermia, most of the body or selected smaller areas are safely subjected to high temperatures. The cancerous tissue is either killed directly by the heat, or it becomes so permeable that only minute amounts of locally injected chemicals are needed to destroy it (thus avoiding the chemical poisoning of the entire system). The clinical use of hyperthermia is not new. It was routinely employed seven thousand years ago in Egypt, and has been used by Western physicians for about 200 years. Yet despite the article “Hyperthermia, still experimental, may win place in cancer therapy”—which appeared in a 1981 issue of the *Journal of the American Medical Association*—few people with cancer today are given the option of receiving heat treatments.

My very small sample lists titles of articles from the most recent back to the 1970s, as well as titles of entire books on electromedical modalities that were published over one

hundred years ago. Of the journal articles, I include peer reviewed titles that for the most part are in English. The therapeutic effects of various EM fields is emphasized, as my purpose here is to cite articles examining the *healing potential of electromagnetic therapies that use frequencies in beneficial ranges and amounts*. For literature on the harm of EM fields—such as from cell phone radiation and high tension wires—see Appendix I, “Recent Studies on the Dangers of Harmful Electromagnetic Fields (EMFs).”

The majority of authors write about the practical applications of frequencies to treat disease conditions that include bone breaks, cancer, neurological degeneration, and infections. Other authors discuss how to evaluate or improve the equipment used to disseminate the therapies, while still others address the effects of different frequencies on specific biological functions, such as enzyme and immune cell production. In a few instances, I mention which frequencies were used in the clinical trials. Some are well known to rifers.

Many of the articles describe Rife's technology without using his name or referring to his research or clinical trials. For example, the abstract of a 2009 paper, “Amplitude-modulated electromagnetic fields for the treatment of cancer: Discovery of tumor-specific frequencies and assessment of a novel therapeutic approach,” states in part:

Because *in vitro* studies suggest that low levels of electromagnetic fields may modify cancer cell growth, we hypothesized that systemic delivery of a combination of tumor-specific frequencies may have a therapeutic effect. We undertook this study to identify tumor-specific frequencies and test the feasibility of administering such frequencies to patients with advanced cancer. . . . Cancer-related frequencies appear to be tumor-specific and treatment with tumor-specific frequencies is feasible, well tolerated and may have biological efficacy in patients with advanced cancer.”¹

The article also mentions that two of the authors have filed a patent on the use of electromagnetic fields for the diagnosis and treatment of cancer—in other words, Rife’s technology!

Despite the fact that Royal Rife is conspicuously absent in medical literature citations, one very recent article does specifically mention the Rife-Bare device as the equipment used in modern experiments: “Is Victory over Pancreatic Cancer Possible, with the Help of Tuned Non-Invasive Physiotherapy? A Case Study Says Yes.” Appearing in a 2014 issue of the *Journal of Cancer Therapy*, the abstract states in part:

Could the conventional treatment of pancreatic cancer effectively be supplemented by a low level and non-invasive bio-electromagnetic treatment? A case study, based on the regular exposure of a patient to an electromagnetic field, EMF, emitted by a Rife-Bare technology device, suggests so. The plasma confined in a tube of this apparatus emitted radiofrequency solitons. [A *soliton* is a wave or pulse that maintains its shape while transmitting at a constant velocity.] These low level emissions were modulated by an “audio” frequency generator, pre-programmed for the treatment of this disease. After less than two months of exposure to these EMFs, the tumor completely disappeared in approximately two weeks. . . . [The biological mechanism of how the machine operates] is characterized by a critical resonance frequency leading the “unicellular” tumoral cell to adopt a self-destructive behavior. On the other hand, EMFs with low level solitons have no effect on the tissues of complex multicellular organisms.”²

Most of the following articles, and thousands more, are at www.emf-portal.org, which links to other sites that display the entire articles or their abstracts.

Note that some of the books are from the 19th century, before antibiotics were invented and became profitable.

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2015

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Note: For this next section, all of which are books, detailed descriptions are included to give readers an idea of the scope of electromedical therapies offered (in both clinics and hospitals), and the medical community's openness to electromedicine. In most cases, the title pages contained a great deal of text, a some of which is reproduced here. Due to the amount of text, it was sometimes difficult to discern between the actual titles and the explanatory subtitling.

Thousands of titles were available in the 1880s and some were published even earlier in the 1700s. For historical interest, the degrees of the authors are included where applicable. All of these books are available in eBook form online, without charge.

1946

Richard Kovačs, M.D. *Electrotherapy and Light Therapy, 5th Ed.* (Philadelphia: Lea & Febiger, 1946).

[Subtitled: *with the Essentials of Hydrotherapy and Mechanotherapy.* This is a major work in the field. Topics include electrophysics; generation, measurement and transfer of electrical charges; effects of currents, injury vs. harm, and passage through all parts of the body; electrodiagnosis; galvanic current and ion transfer; low-frequency current and apparatus; high-frequency current and apparatus; medical diathermy; hyperthermy; electrosurgery; electrical injuries; physics of radiant energy; infrared, ultraviolet and luminous radiation; helio or sun therapy; hydrotherapy; massage; exercise; physical therapies. There are also lengthy chapters on treating, with electromedicine, afflictions of the respiratory tract; central and peripheral nervous system; bones, joints, muscles and tendons; genital tract; urinary tract; cardiovascular system; ear, nose and throat; eyes; and gastrointestinal tract (which includes metabolic conditions). Arthritis and fibrosis (fibromyalgia) are also addressed. The author gives detailed instructions on what electromedical equipment to use for what ailment.]

1920

F. Miramond de Laroquette, M.D. *Atlas for Electro-Diagnosis and Therapeutics* (London: Bailliere, Tindall and Cox, 1920).

George Knapp Abbott, A.B., M.D. *Essentials of Medical Electricity for Medical Students and Nurses* (Philadelphia and London: W.B. Saunders Company, 1920).

1910

J. H. Kellogg, M.D. *Light Therapeutics: A Practical Manual of Phototherapy for the Student and the Practitioner, with Special Reference to the Incandescent Electric-Light Bath* (Battle Creek, Mich.: The Good Health Publishing Co.).

[The author is none other than John Harvey Kellogg, who headed a world-famous sanitarium or "health spa" that hosted a range of clients, some of them famous (the Roosevelts, Charles Lindburgh, Mary Todd Lincoln, Sojourner Truth, and Amelia Earhart). Kellogg was later known for creating a breakfast food, corn flakes, and starting a cereal company. His "incandescent electric-light bath" was the first far infrared sauna, which used special light bulbs created by Kellogg's friend Thomas Edison. The title page lists his credentials as follows: "Author of "Rational Hydrotherapy," "The Art of Massage," etc. Member of the British Gynaecological Society, the International Periodical Congress of Gynaecology and Obstetrics, American and British Associations for the Advancement of Science, the Société d'Hygiène of France, American Society of Microscopists, American Climatological Society, American Medical Association, Michigan State Medical Society, Superintendent of the Battle Creek (Mich.) Sanitarium."]

1904

Toby Cohen ("nerve specialist, Berlin") and Francis A. Scratchley, M.D. *Electro-Diagnosis and Electro-Therapeutics: A Guide for Practitioners and Students* (New York and London: Funk & Wagnalls Company, 1904).

Margaret A Cleaves, M.D. *Light Energy: Its Physics, Physiological Action and Therapeutic Applications* (New York and London: Rebman Company and Rebman Limited, 1904).

[The author's credentials and affiliations are given on the title page as follows: "Fellow of the New York Academy of Medicine; Fellow of the American Electro-Therapeutic Association; Member of the New York County Medical Society; Fellow of the Societe Francaise d'Electrotherapie; Fellow of the American Electro-Chemical Society; Member of the Society of American Authors; Member of the New York Electrical Society; Professor of Light Energy in the New York School of Physical Therapeutics; Late Instructor in Electro-Therapeutics in the New York Post-Graduate Medical School."]

1902

W.F. Brady, M.D. et al. *A System of Electrotherapeutics, Volume 6: Electrotherapy* (Scranton: International Textbook Company, 1902).

Dr. Wilhelm Winternitz (Professor of Clinical Medicine in the University of Vienna; Director of the General Polyclinic in Vienna), assisted by Dr. Alois Strasser (Instructor in Clinical Medicine at the University of Vienna) and Dr. B. Buxbaum (Chief Physician of the Hydrotherapeutic Institute in Vienna) and Dr. E. Heinrich Kisch (Professor in the University of Prague; Physician at Marienbad Spa). *Hydrotherapy, Thermotherapy, Heliotherapy, and Phototherapy, Volume IX. A System of Physiologic Therapeutics: A Practical Exposition of the Methods, Other than Drug-Giving, Useful in the Prevention of Disease and in the treatment of the Sick.*

S.H. Monell, M.D. *X-Ray Methods and Medical Uses of Light, Hot-Air, Vibration and High-Frequency Currents.* (New York: E.R. Pelton, 1902)

William Benham Snow, M.D. (Editor). *The Journal of Advanced Therapeutics, Volume XXI* (A.L. Chatterton & Co., 1902).

[Many medical professionals contributed to Snow's journals, which included information on all types of diseases and their treatment with phototherapy, thermotherapy, hydrotherapy, diet, therapeutic exercise, psychotherapy, and "mechanical vibration therapy." Volume XXI was published in 1902 and Volume XXXI (also available online) was published in 1913, one volume per year. Therefore, we can guess that the first volume of *Journal of Advanced Therapeutics* was probably published in 1882.]

1886

Elizabeth J. French. *A New Path in Electrical Therapeutics* (Philadelphia: J.B. Lippincott Company, 1886).

[Also appearing on title page: Electrical Therapeutics: An Account of the Author's Great Discovery of Electrical Cranial Diagnosis, and the Scientific Application of Different Currents of Electricity to the Cure of Disease. A Brief Treatise on Anatomy and Physiology. An Historical Account of the Discoveries in Magnetism and Electricity, the Progress of Medical Science, and Brief Sketches of the Lives of Eminent Practitioners, from the Earliest Ages to the Present Century; Also a Thorough System of Hygiene; to which are Added Plain Directions for the Treatment of Disease by the Author's System of Electrical Applications.]

1883

Dr. Wilhelm Erb, professor in the University of Leipzig; Translated by L. Putzel, M.D. (Neurologist to Randall's Island Hospital, and Physician to the Clinic for Nervous Diseases, Bellevue Out-Door Department, etc.). *Handbook of Electro-Therapeutics* (New York: William Wood & Company, 1883).

[Contains an extensive chapter outline on many topics: electronics, physiology, physical examination, electro-diagnosis, general electro-therapeutics, diseases, and conditions of the urinary tract, sexual organs, nervous system, muscles, glands, digestive system, and more.]

1878

Edwin D. Babbitt. *The Principles of Light and Color* (New York: Babbitt & Co., 1878).

John Butler, M.D., L.R.C.P.E., L.R.C.S.I. *Electro-Therapeutics and Electro-Surgery* (New York and Philadelphia: Boericke & Tafel, 1878).

1877

Gen. A.J. Pleasonton and Others. *The Influence of the Blue Ray of the Sunlight and of the Blue Colour of the Sky, in developing animal and vegetable life: in arresting disease, and in restoring health in acute and chronic disorders to human and domestic animals* (Philadelphia: Claxton, Remsen & Haffelfinger, 1877).

Herbert Tibbits, M.D., F.R.C.P.E. *How To Use a Galvanic Battery in Medicine and Surgery, 2nd Ed.*



ENDNOTES

Appendix D

SELECTED PUBLISHED STUDIES IN ELECTROMEDICINE

- 1 A. Barbault, F.P. Costa, B. Bottger, R.F. Munden, F. Bomholt, N. Kuster, and B. Pasche, "Amplitude-modulated electromagnetic fields for the treatment of cancer: Discovery of tumor-specific frequencies and assessment of a novel therapeutic approach." *Journal of Experimental and Clinical Cancer Research*, April 14, 2009; 28:51. Abstract, ncbi.nlm.nih.gov/pubmed/19366446 (November 3, 2010).
- 2 Pierre Le Chapellier and Badri Matta, "Is Victory over Pancreatic Cancer Possible, with the Help of Tuned Non-Invasive Physiotherapy? A Case Study Says Yes." *Journal of Cancer Therapy* 2014, Volume 5, Number 5, 460.



Rife Research in the United States

*Only a fool of a scientist would dismiss the evidence and reports in front of him
and substitute his own beliefs in their place.*

—PAUL KURTZ, PhD (BORN 1925)

PROFESSOR, AUTHOR, EDITOR, PUBLISHER, ALSO KNOWN AS THE “FATHER OF SECULAR HUMANISM”

In August 2009, scientific research was begun in Philadelphia, Pennsylvania, that involved the assistance of established (mainstream) medical personnel and actually included the name “Rife” in its title. Anthony G. Holland, PhD, a music professor known for his conducting, composing and performing, had learned of Rife therapy and recognized its value. With the cooperation of inventor-chiropractor James Bare, he made several presentations with a Bare-Rife plasma frequency device and secured the help of several scientists, including the director of a cancer lab who has a PhD in oncology from Johns Hopkins University.

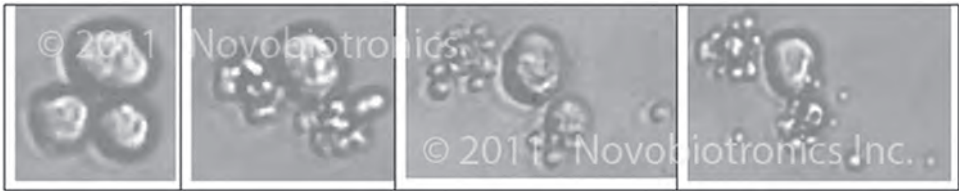
Dr. Holland’s background in digital waveform synthesis and analysis, acoustics and physics—along with his interest in health and frequency therapy—made him ideal to organize and supervise the research team. The research, which is ongoing, is called “Plasma Emission Field Treatment,” or PEFT. Novobiotronics Inc., a non-profit corporation (www.novobiotronics.com), was formed to fund the studies showing the effects of the Bare-Rife device on cancer cells and pathogens. (The company calls the equipment a “Rife-Bare” device. Like some other rifers, I put Bare’s name first because the machine is contemporary and was not designed by Rife.)

The researchers are still collecting data and plan to publish the results of this and future experiments, the identities of all team members, and the frequencies and pulse rates used with the many experimental cell cultures.

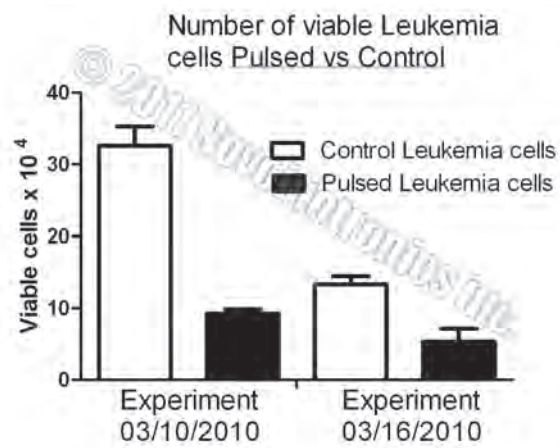
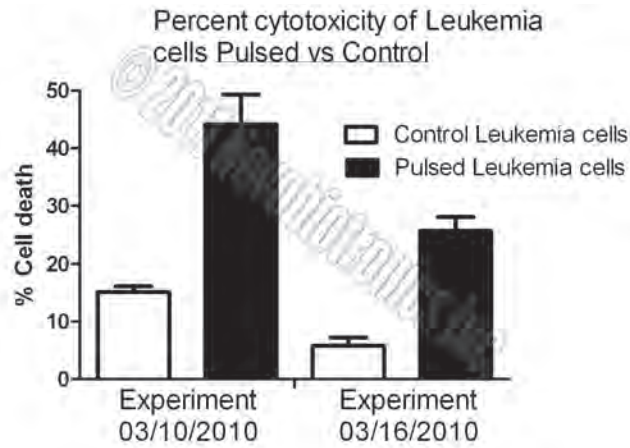
There is more information to be learned; but so far, the results are very promising. The Bare-Rife machine has proven capable of destroying, *in vitro*, pancreatic, ovarian and leukemia cancer cells, as well as slowing their growth. The earliest experiments on human pancreatic cancer cells caused dramatic changes in cell *morphology*, which is the size and shape of cells. These changes can cause cells to grow at a slower rate than normal (desirable in the case of cancer).

“The cancer cells,” Dr. Holland explained in an email correspondence sent July 13, 2011, “are grown in special plastic dishes . . . where they establish themselves and start to grow very rapidly, much the way a cancer tumor grows in the human body. . . . It’s very easy for the cancer researchers to simply count how many cancer cells were killed by the new treatment.”

Data from the leukemia cell experiment is shown on the next page. This particular test, under the auspices of Dr. Holland, was conducted over the course of four months from 2009–2010, at the Division of Surgical Research of Thomas Jefferson University Medical College, with a special prototype plasma device designed and built by Dr. James Bare. The data shows that certain types of cancer cells can be killed *in vitro* (graph, left) and simultaneously slowed in their growth rate (graph, right). The term “pulsed” in the charts refers to cells that were exposed to the Bare-Rife machine.



Above: Human leukemia cells breaking up under PEFT.
The same three leukemia cells are shown throughout the montage.
Two cells are undergoing a morphological transformation
and eventual breakup, caused solely by PEFT.



Photomontage and charts courtesy of Dr. Anthony G. Holland, Novobiotronics Inc.



At-A-Glance Review of Common Toxic Chemicals

“Growth” and “progress” are among the key words in our national vocabulary. But modern man now carries Strontium 90 in his bones . . . DDT in his fat, asbestos in his lungs. A little more of this “progress” and “growth,” and this man will be dead.

—MORRIS K. “MO” UDALL, PhD (1922–1998)

PROFESSIONAL BASKETBALL PLAYER, ATTORNEY, AND STATE OF ARIZONA CONGRESSMEMBER

The following pages contain an overview of common chemicals we use in our daily lives. Not all of the chemicals produce every single damaging effect that’s listed. However, an overall pattern emerges. Most of the chemicals listed are dangerous, and only a few are safe or relatively safe. Carefully read the labels of whatever products you buy or use.

Keep in mind that this is not a comprehensive list, as thousands of new chemicals are created each year. However, this Appendix provides some basic guidelines so you know what to look for when you purchase products ranging from personal care items to carpeting. As more people refuse to purchase products that destroy our health and pollute the environment, manufacturers will seek safer substitutes to comply with the demands of the marketplace.

To keep current with safety information on already existing chemicals and new chemicals that are constantly being manufactured, go to the online database of the Environmental Working Group (which also has a cosmetics section): www.ewg.org. The EWG database grades chemicals according to risk levels—high, medium, or low risk.

Relative risk is an important consideration. If you have a generally useful product that contains mostly safe ingredients and just one or a few synthetic chemicals whose toxicity risks are quite low, it might be worth using it. The EWG database can help you decide.

The data on the following pages were obtained from a number of different sources. Keep yourself informed, as older chemicals are often phased out when new chemicals are created.

ALCOHOLS (SOLVENTS)—ACIDS AND ALKALI

Overview

A solvent is any material that can dissolve solid material and turn it into a liquid. Therefore, by nature solvents are highly corrosive, and their pH must be either very low (as acids) or very high (as alkali or bases). Some solvents are so potent that they can remove barnacles from boats. This is very impressive, considering that the small-shell marine barnacle produces a strong natural glue (after which Super Glue® has been modeled) that allows it to permanently adhere to stationary objects. Strong solvents can liquefy the tough and durable barnacle, so you can imagine how easily they can dissolve baked-on food—or eat through living tissue, should the liquid get in the eyes or on the skin.

Unfortunately, solvents are routinely used to process herbs and spices. According to United States federal law, solvents are permitted in spices at a level up to 50 ppm (parts per million). In small amounts solvents will not kill, but they can cause major health problems. As many solvents are made from petrochemicals, also see **Petrochemicals/Plastics**. You will find some duplications in the two categories.

Lye is a necessary ingredient used to make soap all over the world. It transforms the fats and oils and is used up in the process of soapmaking. The lye potassium hydroxide creates liquid soap, and the lye sodium hydroxide creates solid (bar) soap. Finished soap made with lye should not contain petroleum product residues or other contaminants, although it can, particularly with commercial or mass-produced soaps.

The Chemicals

[anything] Acetate
Acetone
Alpha-Hydroxy Acids
Ammonium Hydroxide
Benzene
Boric Acid
Bronopol
Butane
Carbon Tetrachloride
Ethanol / Ethyl Alcohol (typically made from genetically modified corn), [anything] Ether, Ethyl or Butyl
Ethylene Dichloride
Formaldehyde
Glycols as a group: Propylene, Butylene, Ethylene and Polyethylene [and anything that sounds like or contains these items]

Hexane
Isobutane
Isopropanol / Isopropyl Alcohol
Lye:
 Calcium Hydroxide
 Chlorinated Trisodium Phosphate
 Barium Hydroxide
 Hydrochloric Acid
 Potassium Hydroxide
 Sodium Acid Sulfate
 Sodium Hydroxide
 Sodium Sesquicarbonate
 Strontium Hydroxide
Methanol / Methyl Alcohol
Methylene Chloride
Perchloroethylene
Potassium Carbonate
Propane
Propanol / Rubbing Alcohol
Sodium Carbonate
Sorbitol
Sulfuric Acid
Trichloroethylene
Triethanolamine (TEA)
Wood Alcohol / Wood Spirits

Found In

Paint, paint thinner and stripper, marking pens, adhesives, varnish, automobile antifreeze, airplane deicer, industrial lubricants, windshield wiper fluid, cement, ink, gasoline.

Dry cleaning fluid, spot remover, furniture polish, metal polish, glass cleaner, toilet bowl cleaner, oven cleaner, drain opener, disinfectant, rug shampoo, upholstery cleaner, dish detergent, “all-purpose cleaner,” air freshener, laundry detergent (liquid and powder). Also used as a “carrier” in pesticides.

Shampoo, hair conditioner, hair straightener, depilatory (hair removal) product, anti-wrinkle formula, nail polish remover, facial cream, mask and astringent, permanent wave solution, body lotion, moisturizer, bath salts, eye liner, mascara, mouthwash, antiperspirant, deodorant, tooth powder, aftershave, contact lens solution.

Cigarettes, pet food, cattle feed.

Medicine tablets, cough syrup, medicinal creams, contact lens solution, douching preparations.

Butter, milk, cream, ice cream, cocoa, canned olives and peas, spices, condiments, bakery goods. Also found in aerosol cans for foods like whipped cream and cheese spread.

Effects

Breakdown of cells. Skin rashes, severe irritation, burning and numbness. Muscular weakness. Burning, tingling and numbing of nerves, fainting, dizziness, headaches, depression, impaired perception, disorientation, stupor, coma, permanent nerve damage. Fatigue. Nausea, vomiting, abdominal pain, diarrhea, loss of appetite and weight. Abnormally increased body temperature. Clouding of the eyes, vision problems, permanent eye damage such as blindness—and if lye or other acid is splashed in eyes, within minutes. Irritation and damage to mucous membrane lining, coughing, shallow breathing, difficulty swallowing, and other respiratory disturbances. Insomnia (particularly if sleeping on formaldehyde-treated sheets) or excessive sleepiness. Anemia. Kidney damage and liver damage. Leukemia and Hodgkin's disease. Cancers, especially of the sinuses and throat. Heart damage, sometimes leading to attacks. Death.

Each year in the United States alone, at least 6,000 people are poisoned by ethylene glycol (the main ingredient in antifreeze). Unless treated immediately, the person can die within 24 to 36 hours. Even if death does not occur, permanent disability can result. This chemical is sweet, which makes it tempting to children (and pets, particularly dogs).

Just one ounce of isopropyl alcohol can induce death in a young child.

AMMONIA AND AMMONIA COMPOUNDS

Overview

Ammonia is a highly toxic petrochemical made by blowing steam through specially treated coal.

The Chemicals

Ammonia

Found In

Glass cleaner, floor cleaner, detergent, disinfectant, hair dye, bathroom cleanser.

Eye liner, mascara.

Ammonia-Based Chemicals

Ammonium Hydroxide

Ammonium Chloride

Benzalkonium Chloride (BAK)

Quaternary Ammonium Compounds

Found In

Batteries, explosives, detergents, fabric softener, glass and window cleaners, bathroom and tile cleaners.

Hair dye, hair straightener, skin cream and wash, eye lotion, antiperspirant and deodorant. Medicines.

Bakery products (used as preservatives). Processing of sugar cane and beet sugar.

Effects

Hair breakage. Severe eye irritation, including stinging, watery eyes, cataracts, cornea damage, and vision problems. Headaches and difficulty in mental functioning. Burning of mucous membranes, including severe respiratory tract irritation, coughing and gagging, difficulty breathing, asthma, bronchitis, inflammation of vocal cords, and pneumonia. Chemical skin burns, including ulcerations and lesions. Pulmonary edema (accumulation of fluid in tissues and air spaces of the lungs, which can lead to respiratory failure).

WARNING: Mixing ammonia with chlorine bleach creates deadly chloramine gas fumes!

CHLORINE BLEACH / CHLORINE DERIVATIVES

Overview

Chlorine is a toxic, yellow-green gas that occurs in nature only on rare occasions. The component of most bleaches, chlorine was one of the first manufactured poison gases for warfare. It's produced by running an electrical current through salt water or melted salt, which splits apart the salt molecules and creates chlorine.

When chlorine is used to bleach paper, the reaction of the chlorine with the cellulose fibers of the tree and lignin (the tree's glue that holds the fibers together) produces poisons called organochlorines as well as dioxins (a group of about 75 different toxic chemicals).

The Chemicals

Chlorine Dioxide
Sodium Hypochlorite
Chlorinated Trisodium Phosphate (used in dishwasher)

Found In

Scouring powder, laundry, automatic dishwashing detergent, disinfectant cleaner, mildew remover, toilet bowl cleaner.

Bleaching agent for paper products such as toilet paper, tissues, paper towels, and coffee filters.

Cotton clothing.

Swimming pools and hot tubs.

Effects

Bleach: Anemia. Eye irritation. Mucous membrane corrosion. Skin rash, scarring. Lung irritation, sore throat, coughing, wheezing, runny nose. Circulatory collapse. Fainting, dizziness, mental confusion, delirium, and coma. Pulmonary edema and heart disease. Diabetes. Gastrointestinal and urinary tract cancers.

Dioxins: Additional immune system breakdown, cancer, physical deformities and developmental problems in children, reproductive disorders.

Organochlorines: Cognitive difficulties including lowered IQ; reduced fertility and other reproductive disorders; immune system problems; breast, prostate, and testicular cancer.

WARNING: Mixing chlorine bleach with ammonia creates deadly chloramine gas fumes! Mixing chlorine bleach with vinegar or toilet bowl cleaner creates other harmful gases.

DETERGENTS / EMULSIFIERS

Overview

This category pertains to function rather than one specific chemical. Detergent lifts off dirt from clothing and surfaces by creating foam. Detergent begins as soap that is then subjected to five or six extra chemical processes. It often contains toxic aluminum silicates and/or sulfites that remain in the cloth and rub off on the skin. Sometimes, fluorescent chemical dyes are added that make clothes shine more when in ultraviolet light, thus giving the illusion of cleanliness. Because detergent binds grease molecules together, it is used in all types of cosmetics, as well as tablets (medications and even supplements, which require binding agents so the ingredients stick together).

Don't be fooled if the label says "Natural, from coconut." In most cases, the detergent has been so heavily processed that it's far removed from its original natural source and is now a synthetic chemical.

The Chemicals

Ammonium Cocoyl Isethionate+
Ammonium Laureth Sulfate
Ammonium Lauryl Sulfate+
Borax, (Sodium Borate)
Cocamido/Cocamide DEA
Cocamido/Cocamide MEA
Cocamidopropyl [anything]
Cocoa/Coco [anything]
Cocoyl Sarcosinamide
DEA Cetyl Phosphate
DEA Lauryl Sulfate
DEA Linoleate
DEA Oleth-3 Phosphate
DEA Myristate
Diethanolamine (DEA)**
Diethylene Glycol Monostearate
Disodium Laureth Sulfosuccinate
Disodium Ricinoleamido MEA Sulfosuccinate
Ethanolamide of Lauric Acid
Ethylene [anything]
Ethylene Glycols (as a group)
Lauramide DEA
Laureth-23
Linoleamide MEA
Magnesium Laureth Sulfate
Modified Sulfonates
Sodium Cocoyl Isethionate*
Sodium Lauroyl Sarcosinate*
Monoethanolamine**

Myristamide DEA
 Myristyl
 Myristate
 Oleamide DEA
 Polyquaternium (1-14)
 Polysorbate [number]
 Propylene Glycol Monolaurate, Monostearate or Stearate
 PVP/VA Copolymer (from petroleum)
 Quaternary Ammonium Salts/Compound
 Sodium Laureth Sulfate
 Sodium Laurel/Lauryl Sulfate, also called:
 Akyposal [letters/numbers]
 Aquarex [anything]
 Avirol [letters/numbers]
 Berol 452
 Carsonol SLS [anything]
 Conco Sulfate [anything]
 Cycloril [number]
 Dehydag Sulfate GL Emulsion
 Detergent 65
 Dodecyl Sulfate Sodium
 Dodecyl Alcohol
 Duponal [letters]
 Emal [number]
 Emulsifier # 104
 Emempicol [letters/numbers]
 Emersal [numbers]
 Gardinol
 Hexamol or Incrolol SLS
 Hydrogen Sulfate, Sodium Salt
 Irium
 Jordanol SL-300
 Lanette Wax-5
 Maprofix [letters]
 Melanol CL [sometimes with a number]
 Monododecyl Sodium Sulfate
 Monogen Y 100
 Monopropylene Glycol
 N-Dodecyl Sulphate [or Sulfate] Sodium
 Neutrazyme
 Nikkol SLS
 Odoripon AL 95
 P & G Emulsifier 104
 Perlandrol L
 Product # [number]
 Quolac EX-UB
 Richonol [letter]
 Sodium Dodecyl Sulfate
 SDS
 SLS
 Simtapon L
 Sinnopon [letters/numbers]

Sipex [letter or number]
 Sipon [letters/numbers]
 Sodium Monododecyl Sulfate
 Sodium Dodecyl Sulphate
 Sodium N-Dodecyl Sulphate
 Solsol Needles
 Standapol [letters/numbers]
 Stepanol [letters/numbers]
 Sterling [letters]
 Sulfofon [letters/numbers]
 Swascol [letters/numbers]
 Syntapon
 Tarapon [letters/numbers]
 Texapon [letters/numbers]
 Trepamol [letters/numbers]
 TVM [letters/numbers]
 Ultra Sulfate [letters/numbers]
 WAQE
 Witcolate [anything]
 Sodium Oleth Sulfate
 Sorbitan Monopalmitate
 Sorbitan Monostearate
 Stearamide MEA
 TEA-Dodecylbenzenesulfonate
 TEA-Lauryl Sulfate
 Triethanolamine (TEA)**

**Also used as solvents and preservatives, as are many other chemicals in this group.

+According to some sources, these are safe.

*These are produced from real coconut and are milder than synthetic detergents, although some health-oriented writers advise against using them for the skin and scalp because they are drying and sometimes contain contaminants. Glycerol Monostearate / Glycerol Stearate is sometimes used as a substitute, and has low toxicity. There's not enough data on Decyl Glucoside, according to the Environmental Working Group cosmetics database.

Found In

Metal polish, engine degreaser, floor cleaner and floor wax, paint, brake and hydraulic fluid, airplane de-icer.

Liquid laundry detergent, laundry powder, dish washing liquid, spot remover, fabric softener, bathroom cleaner.

Any product that produces suds contains at least one detergent. Shampoo, bar (hand and bath) soap, bubble bath.

Facial cleanser and cream, hand and body lotion. Shaving cream, cosmetics of all kinds, toothpaste.

Hair dye. This is allowed to be on the market because of an ill-advised “grandfather clause,” which states that if recognized poisons were sold prior to 1938—when the laws regulating poisons were more lax—then they can sold now. The idea is that since the chemical has “always been around” and traditionally enjoyed freedom from regulation, there is no reason to change; so therefore the chemical continues to be sold and used without regulation. Drugs of all kinds, including pain relief medication.

Effects

Strips naturally-occurring protective oils on skin, leaving it vulnerable to contamination by harmful microbes. Skin irritation. Scalp eruptions similar to dandruff. Allergic reactions. Diarrhea. Eye irritation including early onset of cataracts and even blindness (especially from Sodium Lauryl Sulfate). Hair loss, liver and kidney damage or liver and kidney cancer (from DEA). Interference with nutrient absorption, disruption of hormones, impeded reproductive functioning (such as decreased sperm counts). Anemia.

Sodium Laurel Sulfate (SLS) is a common ingredient in many products, but this doesn’t mean that it’s completely safe. Part of the reason for the damage caused by SLS is that it accumulates in the body, especially the heart, liver, lungs, and brain. SLS disrupts proper DNA messages and impairs the healing process. SLS can be so caustic that it corrodes the hair follicle and impairs its ability to grow hair—thus causing the hair to thin. Researchers take advantage of the abrasive effects of SLS when they want to test other chemicals. They first deliberately irritate the skin with SLS in order to more quickly discover how other chemicals affect the skin.

Sodium Laurel Sulfate can also react with other chemicals to form dangerous compounds called *nitrosamines*. Nitrates and nitrates—found in bacon and prepared luncheon meats—are part of the family of nitrosamines. Nitrosamines in shampoo can result in their being absorbed at an even higher rate than if the person had eaten the chemicals in food. Some sources believe that one shampoo session with sodium laurel sulfate is equivalent to eating a pound of nitrate-filled bacon.

Triethanolamine, which is an eye and skin irritant, can react with other disclosed or undisclosed chemicals in a product to form carcinogenic nitrosamines.

DYES

Overview

Over 99% of dyes on the market today are synthetic. They’re manufactured from coal tar, which is derived from petroleum. Many dyes contain toxic metals such as aluminum, which is added to give makeup an iridescent shine; see **Heavy (Toxic) Metals**.

Before synthetic dyes were developed, our ancestors used berries, bark, and other ingredients from plants. If you aren’t sure whether or not a dye is poisonous, it probably is—unless it’s from a safe, pure vegetable source. If a product contains naturally-occurring vegetable dyes, the label will proudly state this. In the past few decades more companies have used plant-based dyes, some of which appear in natural-fiber clothing. Some good books about using plant-based dyes include *Harvesting Color: How to Find Plants and Make Natural Dyes* by Rebecca Burgess, *The Modern Natural Dyer* by Kristine-Vejar, and several excellent books written by Sasha Duerr.

The synthetic dyes listed below are a fraction of what’s being used in the marketplace. Note that “*lakes*” are mineral pigments that don’t dissolve in water.

The Chemicals

Acid Blue 9 & 74
 Acid Blue Ammonium Salt
 Acid Green 5
 Acid Red 18, 27 & 87
 Acid Violet 49
 Acid Yellow 73 Sodium Salt
 Azo color/dyes/compounds (as a group)
 D & C Blue [number]*
 D & C Brown [number]*
 D & C Green [number]*
 D & C Orange [number]*
 D & C Red [number]* ++
 D & C Violet [number]
 D & C Yellow [number]*
 Direct Black 131 & 38
 Direct Blue 6
 Direct Brown 1, 2, 31, 12 & 154
 Disperse Yellow 3
 Phenols [any variation]
 Quinazoline Yellow
 Yellow No. 11

*Some contain aluminum lake.

++ Some contain barium lake, zirconium lake and strontium lake.

Found In

Candy, pudding, canned meat, bakery products, chips, packaged cereal, carbonated beverages, pet food, condiments, soup, pasta, caviar, fresh fruits and vegetables.

Shoe polish, clothing.

Nearly all detergents and cleaners for kitchen, bathroom, laundry, dishes, furniture, glass, and the rest of the home. There is hardly anything that does not contain dye!

Shampoo, hair conditioner, bar (hand and body) soap, mouthwash, bubble bath and bath salts. Deodorant, moisturizer, facial powder, rouge, mascara, eye liner, eye shadow, hair dye, nail polish, most cosmetics. Toothpaste and mouthwash.

Medicines of all kinds, including aspirin, sleeping pills, decongestant, cough suppressants. Also vitamins and other nutritional supplements.

Effects

Allergic reactions, including hives and contact dermatitis. Eye irritation and permanent blindness. Leukemia (4% of all cases due to hair dye). Hodgkin's disease. Non-Hodgkin's lymphoma (20% of all cases due to hair dye). Multiple tumors, including in kidney and adrenal glands. Cancer of the thyroid, bladder, intestinal tract, and elsewhere. Behavioral problems and emotional volatility. Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD), especially in children. Interference of brain-nerve transmission. Chromosome damage. Reproductive mutations.

FLUORIDE (SODIUM FLUORIDE)**Overview**

Sodium fluoride, simply known as "fluoride," is registered as a pesticide by the Federal Insecticide, Fungicide, and Rodenticide Act. Fluoride is a heavy metal or toxic metal, and has never been approved by the FDA as safe or effective for therapeutic purposes. I have created a separate category for fluoride because it's so common—and dangerous.

Fluoride is added to toothpaste and drinking water in the United States and other countries. Although industry touts the chemical as beneficial and even medically necessary, studies on the safety of fluoride were ordered and then suppressed by the US government when the studies revealed that fluoride is a deadly poison.

Found In

Toothpaste, all kinds, even many brands obtained at a health food store. More than 11,000 calls are made annually to Poison Control Centers in the United States about children who swallow toothpaste and become ill. In fact, labels on toothpaste cartons read, "Do not swallow."

Baby foods.

Drinking water.

Effects

Sodium fluoride causes health problems similar to those caused by other heavy metals; see **Heavy (Toxic) Metals**. Rather than being a great cavity fighter, fluoride erodes the enamel on teeth, creating stains and pitting. However, this poison causes even more damage, including skin rashes, convulsions, blood vessel calcification, gastrointestinal disorders, arthritis, aching bones, bloody vomit, immune malfunction, genetic and birth defects, cell death, infertility, and increases in deaths from liver, bone, and other cancers.

Fluoride damages the brain and nervous system, lowering intelligence and numbing the centers of the brain dealing with the ability to think and to exercise free will (discussed in Chapter 3).

For comprehensive and detailed information, including political action strategies, see the website of the Fluoride Action Network (FAN), www.fluoridealert.org.

FRAGRANCES AND FLAVORS (SYNTHETIC)

Overview

This is a very broad category. The terms “fragrances” and “flavors” are often used together and interchangeably because they’re chemically related and frequently come from the same source. Because their ingredients are permitted by the FDA to be defined as trade secrets, companies aren’t legally required to list them or divulge the formulas. Fragrances and flavorings are not required to be labeled “artificial” and legally they can be called “natural.” You are probably safer if the label is specific (as in “contains real orange oil extract”), rather than general (as in “natural flavors”). However, in some products that are genuinely natural—as we would commonly define the term—the FDA *requires* the label to include the phrase “natural flavors.” Therefore, unless the customer speaks to an honest and knowledgeable representative at a company, it can be difficult to know exactly what’s in a product.

At least half of the additives to foods are synthetic flavorings. Even if a label reads “contains natural flavors,” the flavors are legally allowed to be adulterated or comprised entirely of synthetic chemicals.

Fragrances and flavors are used in any and all items. Synthetic fragrances can contain up to 5,000 hydrocarbons (derived from petroleum or natural gas) and as many as 200 other ingredients, which instead of being listed separately can simply say “fragrance.” After processing, their main component is poisonous alcohol solvent (which can also be burned as fuel).

In *Beauty To Die For*, Judi Vance cites studies showing that 71% of patients who inhaled a popular perfume had markedly diminished blood flow to the brain. Although the effect was temporary, consider what happens to someone who constantly reapplies perfume with the intent of making the odor linger.

Ethyl acetate is only one example of thousands of flavors/fragrances. In *A Consumer’s Dictionary of Food Additives*, 4th Ed., Ruth Winter reports that even though ethyl acetate occurs naturally in apples, bananas, grape juice, pineapple, raspberries and strawberries, the final synthesized product is so highly processed and concentrated that it irritates and eventually depresses the central nervous system. Ethyl acetate can also cause kidney and liver damage due to prolonged inhalation. Because the chemical acts as a solvent on fats, it causes the skin to dry and crack, which can promote secondary infections.

What follows is just a tiny sample of synthetic fragrances and flavors, as there are far too many to list them all.

The Chemicals

Acetanisole
 Acetophenone / Acetyl Benzene / Benzoyl Methide
 Acetyl Acetone / Acetoacetone / Diacetyl Methane
 Acetyl Hexamethyl Tetralin
 Allyl: Anthranilate, a-Ionone, Butyrate, Caproate, Heptanoate, Hexanoate, Isothiocynate, Mercaptan, Phenylacetate, Phenoxyacetate, Propionate, Sorbate, Sulfide, Tiglate, 10-Undecenoate**
 Allyl Cyclohexane: Acetate, Butyrate, Propionate
 Amyl: Acetate, Butyrate, Formate, Hexanoate, Octanoate, Propionate, 2-Furoate [also look for these words with numbers]**
 a-Amylcinnamaldehyde [anything]
 a-Amylcinnamyl: Acetate, Alcohol, Formate, Isovalerate
 Anisole
 Anisyl Acetate, and Anisyl Alcohol, Butyrate or Formate
 Anthranilic Acid / Methyl Ester / Cinnamyl Ester
 Aspartame (see Chapter 1)
 Benzaldehyde and Benzaldehyde: Dimethyl, Acetal, Propylene Glycol Acetal, Glyceryl Acetal
 Benzyl Butyrate
 Butyl Stearate and Butyl Ether
 Diethyl: Aspartate, Acetaldehyde, Malonate, Sebacate, Succinate, Tartrate
 Dihydro Carveol
 Dihydro Coumarin
 Ethyl: Acetate, Acetoacetate, Acetone, Acrylate, Anthranilate, Benzoate, Caproate, Decanoate, Glutamate, Hexanoate, Lactate, Maltol, Methylphenylglycidate, Myristate, Nitrite, Oleate
 Methyl propyl ketone (MPK) / 2-Pentanone
 Monosodium Glutamate (in Hydrolyzed Soy, Vegetable/Yeast Proteins/Extract, Sodium Caseinate; see Chapter 3)
 Nonalol
 Nonanal/Pelargonic Aldehyde
 Formate
 Phenyl [with a number]
 Phenylacetaldehyde [anything]
 Phenylpropyl [with a number and usually another word]
 Piperonal (Heliotropin)
 Piperonyl Acetate, Aldehyde, Butoxide, Isobutyrate
 Pyruvaldehyde/Acetyl Formaldehyde/Acetyl Formic Acid
 Saccharin++

** “Allyl” means “derived from allyl alcohol.” Not everything with “allyl” is poisonous. The herb tarragon contains a naturally-occurring compound p-allyl anisole.

++Saccharin, used to sweeten toothpaste and foods, is a recognized carcinogen.

Found In

Dishwashing detergent, fabric softener, oven cleaner, window and glass cleaner, antifreeze, air freshener, furniture polish, shoe polish.

Nail polish and nail polish remover.

Shampoo, hair conditioner, hand and body soap, moisturizer, hand lotion, skin cream, antibacterial lotion, toothpaste, perfume and cologne, aftershave lotion, shaving cream, foundation and body powder, bubble bath and bath salts, deodorant, antiperspirant, lipstick.

Disposable wipes, sanitary napkins, antiperspirant, deodorant, talcum powder, feminine hygiene spray, tissues, toilet paper, tampons, disposable towels for babies.

Medicines of all kinds, including cough suppressant.

Ice cream and other dairy products, ices, candy, baked goods, icing, beverages (tea, coffee, soda), spices, syrups, chewing gum, pudding and gelatin desserts, liquor, condiments, meats, shortening.

Ethyl acetate and amyl acetate are used as a nail polish solvent and a flavoring for candy, baked goods, liquor, ice cream, chewing gum, condiments, gelatins and puddings. The term “ethyl” signifies a hydrocarbon that is derived from natural gas.

Effects

Skin rashes, blisters, changes in coloration of the skin. Digestive disturbances, including vomiting and diarrhea. Muscular aches and pains, including shoulder and chest pain; numbness. Violent coughing. Irritation of mucous membranes. Allergies, including sneezing. Sluggishness, fatigue. Headaches, mood swings and irritability, dizziness and vertigo, confusion, central nervous system and emotional depression, hyperactivity, convulsions. Coma. Narcotic. Kidney and liver damage. Reproductive, birth, fertility and fetal disorders.

HEAVY (TOXIC) METALS

Overview

Heavy metals don't belong in the body. Even if a toxic metal is an unbound mineral with a name like potassium or calcium, it's very different from a mineral *compound* such as (for instance) potassium aspartate or calcium lactate that's bioavailable to the body. In a mineral-deficient individual, the body—unable to distinguish between nutrient minerals and toxic metals/minerals—will absorb the toxic and not the bioavailable substances.

Many pigments are prepared with various forms of aluminum, barium, strontium, and other heavy metals that fix the colors and prevent them from being dissolved in water. (Also see **Dyes**.) A metals that's toxic in any form, such as aluminum, can appear by itself or as part of a compound (such as aluminum chlorohydrate).

The Chemicals

Aluminum [anything]
 Antimony [anything]
 Arsenic [anything]
 Barium [anything]
 Cadmium [anything]
 Calcium: Carbonate, Chloride, Cyanamide
 Chlorides as a group (except for Sodium Chloride)
 Chromium: Nitrate, Oxychloride, [number] Oxide
 Cobalt
 Copper/Cupric Cyanide
 Iron Oxide
 Lead [anything]
 Mercury [anything]
 Nickel [anything]
 [anything] Oxide
 Potassium: Chromate, Hydroxide, Salt of Iodeosin (See **Preservatives** for details on Potassium Sorbate)
 Silver Chloride***
 Silver Nitrate***
 Silver Oxide***
 Strontium [anything]
 Titanium Oxide/Dioxide
 Vanadium
 Zinc Oxide
 Zinc Potassium Chromate
 Zinc Stearate
 Zirconium

****Colloidal* Silver is an entirely different substance that's safe and beneficial; see Chapter 3.

Found In

House and artist's oil paint, photography chemicals, solder, pottery glaze on ceramic dishware.

Shoe polish, stain resistant chemical in carpet and furniture.

Drain opener.

Laundry detergent, dishwashing liquid.

Hair dye. Hair coloring products are allowed to be marketed without being regulated due to a "Grandfather Clause" of 1938. This law exempted from federal regulation hair dyes and other chemicals that were already on the market, based on the rationale that since they were previously and currently being used, this somehow gave them immunity from restriction even though tests showed that they were actually toxic.

Antiperspirant, deodorant, moisturizer, body lotion, skin cream, antibacterial skin lotion, toothpaste, bar (hand and body) soap, sun block and sunscreen.

Mouthwash and toothpaste, including whitening toothpaste.

Mascara, eye shadow, eye liner, rouge and other face powder, lipstick, nail polish, theatrical and clown makeup.

Pain medicine.

Effects

Stomach and abdominal cramps, nausea, constipation, vomiting. Excessive thirst. Skin rash. Weakness and lethargy. Muscle, joint and bone pain. Mouth sores. Cancer. Tooth discoloration. Depression. Premature aging. Brain disorders such as Alzheimer's (from aluminum buildup in the system), learning disorders, lowered intelligence, short attention span, hyperactivity, motor difficulties. Poor impulse control leading to violence and murderous outbursts, probably caused by abnormally lowered levels of the brain neurotransmitter serotonin. Stillbirths and low sperm counts. Immune disorders. Genetic damage.

PESTICIDES AND FUNGICIDES

Overview

This is a broad category, based on function. Fungicides kill various forms of fungi, which also include mold, mildew, and rot. Most common household soaps and detergents—kitchen, laundry and bath disinfectants and sanitizers, and products that kill mold and mildew—are legally classified as pesticides because they contain ingredients that either deter, harm, or outright kill pests. Legally, "pests" can range from microscopic pathogens (including fungi) to insects to rodents. The label will read "germicidal," "anti-fungal" or "anti-bacterial" rather than "contains pesticides." Not every pesticide present in an insecticide is listed on the label, and some effects that are harmful occur when the different chemicals are combined. Although many pesticides are derived from petroleum, they are not listed again under **Petrochemicals/ Plastics** unless they're commonly recognized as petroleum-derived and are specifically used as plastics.

Below is only a minuscule sample of the thousands of pesticides on the market. Poisons that have been banned in the United States but are still present in the environment are known as Persistent Organic Pollutants (POPs), and have asterisks after them. (The "Organic" in "Persistent Organic Pollutants" should not be confused with some common synonyms of the word like "healthy" or "natural." Here, "organic" is used as a definition in classic chemistry: "containing carbon" and sometimes also "containing hydrogen.")

Although almost 100% of household detergents contain pesticides, only a very small number of products indicate specifically that they are anti-bacterial or fungicidal. In any case, the labels would never list "pesticides" as one of the ingredients. Most of the pesticides listed below are synthesized chemicals.

Curiously, a few substances listed as pesticides are actually safe, so they are not included below. Also not included are biocompatible substances such as essential oils that have naturally-occurring pesticidal, germicidal and fungicidal properties (and are legally not regarded as pesticides or fungicides).

The Chemicals

Acephate, Acetaldehyde, Akton, Aldrin,* Aldicarb, Allethrin, Azinphosmethyl, Benomyl, Benzaflo, BHC, Binapacryl, Binapacryl, Botran, Bufencarb, Captan, Carbaryl, Car bendaxim, Carbofuran, Carbophenothion, Caumaphos, Caustic Soda, Chlordane,* Chlordimeform, Chlorinated Trisodium Phosphate, Chlorine, Chloropicrin,

Chlorothalonil, Chlorpyrifos, Coal Tars, Crufomate, Cyfluthrin, Daminozide, DDT,* DDVP, Deet, Demeton, Diazinon, Dichlorobenzene, Dichloroethyl Ether, Dichlorvos, Dicloran, Dicofol, Dicrotophos, Dieldrin,* Dimethoate, Dinitrocresol, Dinobuton, Diquat, Disulfoton, Dimethoate, Dinitrocresol, Dioxathion, Dioxins,* Diphenyl, D-limonene, DNOC, Endosulfan, Endrin,* EPN, Ethion, Ethylene Bisdithiocarbamates (EBDCs), Fensulfothion, Fenthion, Fenvalerate, Folpet, Fonophos, Fluoride (also known as Sodium Fluoride), Furans,* Heptachlor,* Hexachlorobenzene (HCB),* Hydrocarbons, Hydroquinoline Bromide, Imazilil, Iprodione, Lead Arsenate, Lindane, Linuron, Malathion, Maneb, Metam Sodium, Methamidophos, Methidathion, Methomyl, Methyl Parathion, Metolachlor, Metronidazole, Mevinphos, Mexacarbate, Mexacarbate, Mirex,* Monocrotophos, Naled, Naphthalene, Naphthaleneacetic Acid, Nicotine, Nitrobenzenamine, Norflurazon, Orthophenylamine, Orthophenylphenate, Orthophenylphenol, Oxydemeton Methyl, Oxyfluorfen, Oxythioquinox, Parathion, Paraquat, Pentachlorophenol, Permethrin, Perthane, Phenothrin, Phorate, Phosalone, Phosmet, Phosphamidon, Piperomylbutoxide, Prometryn, Propargite, Propoxur, Quinomethionate, Resmethrin, Ronnel, Rotenone, Schradan, Sodium Fluoride (also known simply as “Fluoride”), Sodium Orthophenylphenate, TDE, Temephos, TEPP, Tetrachlorvinphos, Tetradifon, Tetramethrin, Thiabendazole, Toxaphene,* Trichlorfon, Triclosan, Trifluralin, Trimethacarb, Ziram

*Otherwise known as Persistent Organic Pollutants (POPs). Although banned in the United States because they are so poisonous, Persistent Organic Pollutants are still used elsewhere. They lodge in the fatty tissue of animals, and humans who are unable to excrete them, and the chemicals continue to wreak severe damage on the environment, humans and animals

Found In

Obvious products: Moth balls, weed killer, insect repellent, insecticide, flea and cockroach spray, rat poison, and antifungal, anti-algae swimming pool chemicals, pet flea and tick spray, flea collars, dust, and bath solution.

Items listed as germicidal, anti-bacterial, anti-fungal, disinfectant, or killing mold and mildew, including: Most bathroom, kitchen, laundry and personal care soap such as hand and body bar soap, antibacterial soap, liquid and powder laundry detergent, and dishwashing liquid. Disinfectants/sanitizers such as toilet bowl cleaner.

Deodorant, body wash, hand and body lotion, antifungal medicine cream and foot powder, facial mask.

Toothpaste and mouthwash. For more information on fluoride, see **Fluoride (Sodium Fluoride)** and **Heavy (Toxic) Metals**. Note that Triclosan is now being used in toothpaste—even though the FDA has acknowledged that no evidence exists that it is effective when ingested orally, and evidence exists that pathogens are becoming immune to the chemical.

In the late 1990s, industry started impregnating antibacterial agents into plastic cutting boards and cooking utensils. Not only is this dangerous, it is unnecessary, as subsequent studies (to the surprise of researchers) showed that pathogenic microbes have a hard time remaining alive on ordinary wood cutting boards, which many people have stopped using in favor of plastic.

Conventionally grown produce is heavily sprayed.

Among the most toxic are: Strawberries (probably the most sprayed, and with the worst pesticides), green and red bell peppers, peaches, celery, apples, apricots, cherries, grapes, lettuce, green beans, cucumbers, watermelon, cantaloupe, grapefruit spinach, pears, and oranges. Produce is even sprayed after being picked. Bananas and tomatoes are picked unripe, and then artificially “ripened” with polyethylene gas just before they reach the stores.

The Environmental Protection Agency has authorized an “allowable” amount of pesticides to be present in foods, which include (but are not limited to): meats, fruits and vegetables, baked goods, liquor, candy, and beverages. The pesticide so-called “residues” are not only present because of what is sprayed on crops; many ingredients classified as pesticides are also used in the processing of food.

Conventionally raised animals raised for human consumption eat conventionally grown produce and grains. Therefore, pesticides are prevalent in animal feed.

Unidentified in: Carpets, finished wood products, clothing (non-organic cotton is heavily sprayed—which makes it wise to also avoid eating anything cooked with cottonseed oil).

Effects

Flu-like symptoms such as weakness, muscle and joint pain, and fatigue. Nausea, vomiting, stomach burns, and other digestive disturbances. Nervous system ailments: mood swings, emotional and mental disorientation, slurred speech, insomnia, motor spasticity, memory loss, dizziness, tingling, convulsions, numbness, tremors, paralysis, grand mal seizures. Swelling of face, eyelids,

lips, mouth, and throat. Skin rashes and burns. Liver and kidney damage. Chest pains, shortness of breath. Excessive salivation. Urinary tract damage. Birth defects (including stillbirths), and genetic mutations. Cardiac irregularities. Liver, lung, and thyroid gland tumors; bladder and other cancers. The kind of damage, and time for onset of symptoms, are unknown for most pesticides, because they are either inadequately tested, or in most cases not tested at all.

The effects of single chemicals increase when they are mixed with other chemicals, and also because they degenerate into other toxins once they are ingested. Only one example among thousands is the fungicide Captan, whose breakdown products include a chemical similar to the drug thalidomide, widely known to cause birth defects.

Another difficulty with pesticides is that even if they are banned in the United States, they are allowed to be sold to other countries—which then apply the pesticides to produce that they export to United States. In this way, we ingest the very pesticides that our laws have declared are too dangerous to use at home. Our labeling laws do not cover pesticides that enter this country on produce from other countries.

Despite the disparity in pesticide laws between the United States and other countries, Most produce grown in the United States contains more pesticides than produce grown elsewhere such as Chile, New Zealand, Mexico, Canada, Australia, Mexico, Argentina and Germany.

Of all the agricultural corporations, Monsanto is the most responsible for the increase of pesticides worldwide.

PETROCHEMICALS / PLASTICS

Overview

This large class of chemicals is derived entirely or partially from petroleum.

Petrochemicals form a barrier against moisture. They can also prevent a concoction of diverse ingredients from separating, which makes them popular for use in cosmetics when it's desirable to maintain a smooth blend. However, petrochemicals coat whatever they touch. If that surface is skin, hair, mucous membranes or any other tissue, the cells are literally smothered by a layer of plastic and not only can't absorb moisturize, but they also cannot breathe, eliminate waste materials, or generate new healthy cells.

Note that some types of plastic—especially ABS (acrylonitrile butadiene styrene)—are more stable than others and have been approved by the FDA for use in items related to food, children's toys and medical equipment.

Also see **Preservatives** (some are made of petroleum).

The Chemicals

- Aldehydes
- Acrylic
- Acrylonitrile
- Acetate
- Acetyl Acetone
- Acetylene
- Acetic Acid (from petroleum, not vinegar)
- Acetic Ether
- Acrylic polymers
- Alcohols (as a group)
- Ammonia (also see **Ammonia**)
- Benzene
- Butadiene
- Butane
- Butanol
- Butylene, [anything] Butyl
- Coal Tar (also see **Dyes**)
- Dipropylene Glycol
- Ethylene & Ethylene glycol
- Formaldehyde
- Glycols (as a group)
- Kerosene
- Methacrylate
- Microcrystalline wax
- Mineral Oil
- Naphtha/Naphthalene
- Paraffin
- PEG [number]
- Petroleum Hydrocarbon Resin

Petrolatum
 Petroleum Jelly
 Phenol
 Polyacrylamide
 Polyether glycol*
 Polyethylene
 Polyethylene glycol*
 Polyglycol*
 Polyols (as a group)
 Polyoxyethylene [number and other word]*, such as
 Polyoxyethylene 40 Monostearate
 20 Sorbitan Monostearate
 20 Sorbitan Monooleate
 20 Sorbitan Monopalmitate
 20 Sorbitan Tristearate
 Polypropylene
 Polyurethane (foam) Polyvinyl Chloride (PVP)+++
 Polyvinylpyrrolidone (PVP), also called PVP Copolymer
 and PVA Copolymer
 Propylene
 Propylene Glycol, also called
 1,2-Propandiol
 1,2-Dihydroxypropane
 Methyl Glycol
 Methylethylene Glycol
 PG 12
 Propane-1,2-Diol
 Sirlene
 Trimethyl Glycol
 Polyamide (Nylon)
 Polyester
 Polystyrene (Styrofoam)
 Styrene
 Synthetic Rubber
 Tetrafluoroethylene, also called Teflon
 Toluene [anything]
 Vinyl: Acetate, Bromide, Chloride
 Vinylidene Chloride
 Xylene
 Xylenol, also called 2-4-Dimethylphenol
 ...any word that contains Ethyl, Methyl, Propyl, PVP,
 Butyl, Octyl, -ene, -eth

*also known as PEG [with a number after it, 4–200]

+++ May leach out Carbon Tetrachloride, Cyclohexanone (CH), Di-(2-ethylhexyl) Phthalate (DEHP), Dibutyl Phthalate, Dimethyl-Formamide (DMF), Methyl Ethyl Ketone (MEK), Tetrachloroethene, Tetrahydrofuran (THF), and Trichloroethane, which could be dangerous if your water pipes are made of that plastic. These materials cause DNA damage and some of them are carcinogenic.

Found In

Explosives, adhesives, wood finishes, rubber cement, antifreeze, airplane deicer, lubricant, dyes, paints, dry cleaning fluid, solvents, ink, road tar, and pitch.

Paper, cardboard, carpet, synthetic fabric, and bed sheets (treated with formaldehyde).

Pesticides.

Floor cleaner and polish, furniture polish, mothballs, air freshener.

Drinking glasses (including Styrofoam cups), swizzle sticks, food containers and wrappers, squeeze bottles, pet and cattle food.

Cushions, mattresses, pillows.

Disposable diapers, disposable paper towels for babies, sanitary napkins, tampons.

Teflon is used as a nonstick coating for cookware, irons and ironing board covers, plumbing pipes and tools.

Petrolatum (a mixture of numerous hydrocarbons that are themselves produced when gasoline is manufactured) forms the base of most skin creams, salves and ointments: petroleum jelly, moisturizer, hand and body lotion, skin cream, foundation, makeup, lip balm, eye liner, eyelash cream, eyebrow pencil, mascara, lipstick, nail polish, nail polish remover, permanent wave lotion, hair spray, hair dye, hair bleach, hair tonic, antiperspirant, deodorant, perfume, shaving cream, makeup, and hair brushes.

Contact lenses, dentures, food preparation equipment.

Toothpaste.

Medicines of all kinds, including pain relief tablets and cough suppressant. The petroleum byproducts are used to bind the tablets together.

Cigarettes.

Laundry detergent and most other cleaning agents.

Chewing gum base; ice cream and other dairy products; beverages; baked goods; cake mixes, icing and fillings; frozen custard; whipped vegetable oil toppings; shortening; meat, poultry and fish products; condiments such as catsup and relish.

Plastics are routinely used to coat fruits and vegetables. However, beeswax and caruba wax (from a tree) are sometimes used instead of plastics to coat fruits and vegetables that are organic.

Sexual lubricants, including the kind on pre-lubricated condoms.

Most vitamin and mineral supplements are made from petroleum or coal tar.

Many petroleum products are used as solvents and (because of their sweetish taste) fragrances and flavorings.

Phenols, which are commonly used in dyes, flavorings and preservatives, are very poisonous.

Plastics are used in everything, from electrical equipment to clothing to babies' toys. Don't allow young children to be exposed to unstable plastics that outgas (whose molecules evaporate into the air and are inhaled). The most dangerous plastics are vinyls, such as vinyl chloride and polyvinyl chloride (PVC). Use natural materials such as cotton, wool, silk, linen, wood and metal.

Effects

As petrochemicals block moisture and thus suffocate living tissue, common responses in the skin are pimples, blackheads, dry skin, rashes, wrinkles (in other words, premature aging), and photosensitivity (excessive sensitivity to the sun). However, petrochemicals can also be eaten in food or inhaled in nail polish. Petrochemical poisoning includes: Allergic reactions. Nosebleeds. Peeling and splitting of the nails. Headaches, central nervous system depression, paralysis, and convulsions. Circulatory collapse and disorders, including cardiac arrest. Fatigue. Intestinal gas, nausea, vomiting, diarrhea, impacted feces, gastrointestinal tumors. Difficulty breathing, asthma, bronchitis and respiratory failure, including pneumonia and asphyxiation. Malnutrition. Immune system disorders. Eye damage. Anemia (in infants exposed to clothing and blankets that were stored in mothballs). Liver and kidney damage. Acidosis (unnatural acidification of the system). Coma.

Mineral oil (petrolatum) is a common ingredient of cosmetics and sometimes even foods. It may accumulate in the lymph nodes, where it dissolves and prevents the absorption of Vitamin A from the intestines.

Some petrochemicals such as polyoxyethylene may not in themselves produce tumors, but they do speed the growth of tumors from other sources that are carcinogenic. Petrochemicals can also function as narcotics, producing symptoms similar to the drunken effects of alcohol.

Hair sprays are a fire hazard. There are accounts of women dying when their hair caught fire. The FDA once reported that a woman lit a cigarette before her sprayed hair had thoroughly dried, which caused her death from flaming hair.

PRESERVATIVES (SYNTHETIC)

Overview

When foods and other perishable ingredients are exposed to oxygen, pathogens can grow and eventually they spoil the product. Hence, we use preservatives, which work by preventing oxygen from combining with other substances. Something that prevents oxygen from combining with another substance is also known as an antioxidant.

Technically, "preservative" refers to a function. It doesn't explain the chemical composition of whatever ingredient is being used to preserve. There are three classes of preservatives: safe, naturally-occurring substances, which include essential oils of rosemary and oregano (or the herbs themselves); dangerous synthetic substances, which include petrochemicals, alcohols and pesticides (all of which are used as preservatives); and a gray area of synthesized or manufactured chemicals that are relatively safe and have therapeutic applications when used properly. As the category of preservatives is so broad, it's necessary to distinguish between those substances that are unsafe and relatively safe. (I will not be addressing naturally occurring, safe substances that have antioxidant properties.)

Some preservatives, in particular petroleum-derived substances, are sometimes used as flavoring.

The Chemicals

2-bromo-2-nitropropane-1,3-diol (this is one chemical), also known as Bronopol

Aluminum (used in vaccines; see **Heavy (Toxic)**

Metals in this appendix, and Chapter 1, **Vaccines**) [anything] Benzoate. (Despite claims that this is derived from Benzoin Gum, it's synthetically produced—so even though it's milder than most, it can still cause allergic reactions)

Benzoic Acid (synthetic, derived from petroleum—not the safe kind extracted from plant-based gum, benzoin, benzoin bark or balsam)

BHA (Butylated Hydroxyanisole)

BHT (Butylated Hydroxytoluene)

BNPD, also called 2-bromo-2-Nitropropane-1,3-diol]*

Citric Acid (antioxidant)***

Cloflucarban

Diazolidinyl Urea and Imidazolidinyl Urea*

DMDM Hydantoin*

EDTA (a synthetic amino Acid)+++

Formaldehyde and its group, [anything] Aldehyde

Glyceryl [anything]

Methylisothiazolinone Padimate-O, also called Octyl Dimethyl PABA
 Parabens as a group: Butyl, Ethyl, Methyl, Heptyl, Propyl (also called PHBS)+
 Pentachlorophenol, also called Chlorophen and Santophen
 Phenol Carbolic Acid
 Phenoxyetol
 Phenoxyethanol
 Phenyl Mercuric Acetate
 Potassium Sorbate, also called Potassium Salt and 2,4 Hexadienoic Acid—this is a mold inhibitor, and fairly safe++
 Propyl Gallate
 Poly Quaternium [number]*
 Sodium Bisulphite
 Sodium Hexametaphosphate
 Sodium & Potassium Nitrate
 Sodium & Potassium Nitrite
 Thimerosal (mercury derivative, a neurotoxin, widely used in vaccines and one of the most poisonous substances on the planet; see Chapter 1, **Vaccines** for details)

***When eaten in citrus fruits, this naturally occurring acid is safe. However, citric acid used in the food industry is manufactured by cultivating the fungus *Aspergillus niger* and allowing it to metabolize sucrose or glucose. The sugars typically come from genetically modified (GMO) corn or genetically modified (GMO) beets.

+++EDTA, a synthetic amino acid (protein building block), is successfully used by holistic practitioners to remove heavy metals from the body. Its antifungal properties also make it useful for therapeutic purposes (as in nose drops or a sinus rinse).

*Many in this group, including quaternium 15, either release or degrade into deadly formaldehyde. Formaldehyde is typically used to embalm corpses.

++One of the safest preservatives that currently exist. It is necessary for some products, such as bottled Aloe Vera juice or gel, which require something to prevent mold from forming.

+Various sources debate the safety of propylparabens. They're probably among the safest preservatives, although some people do have allergic reactions to them. It's probably preferable to find (or make) products that contain naturally-occurring Vitamins C or E, hydrogen peroxide, grapefruit seed extract, essential oil of rosemary (or something similar), or colloidal silver as preservatives.

Found In

Fumigants, insect repellent, and other pest control products.

Spot remover, furniture polish, lacquer, varnish, glass cleaner, toilet bowl cleaner, oven cleaner, drain opener, disinfectant, rug shampoo, upholstery cleaner, dishwashing liquid, air freshener, "all-purpose cleaner," laundry detergent.

Paint, paint thinner, paint stripper.

Hand and body bar soap, shaving cream, shampoo, hair conditioner, nail polish remover, facial mask and astringent, cold cream, skin lotion, sunscreen, tanning solution, permanent wave solution, aftershave lotion, bubble bath, foot powder, moisturizer, deodorant, antiperspirant.

Mouthwash.

Eyeliner, mascara, lipstick, cuticle softener, perfume and cologne, contact lens solution.

Medicines of all kinds, including cough syrup, pain relief tablets, antacids, decongestants, and respiratory inhalants.

Baked, canned and packaged goods, sweets, fish, meats, condiments, dairy preparations, soda. Very few supermarket foods do not contain preservatives.

Benzoic acid alone is used as a flavoring that mimics nut, tobacco, chocolate, orange, lemon, cherry and other fruit for beverages, ice cream, ices, candy, baked goods, icing, and chewing gum. It's also used in pickles and margarine.

Effects

Headaches. Skin rashes, inflammation, ulcers, and burns. Eye irritation and damage. Irritation of lungs and mucous membranes, asthma. Flu-like symptoms such as sore throat, coughing, and sneezing. Tumors and various types of cancer (especially from the proven carcinogens formaldehyde, sodium nitrate, potassium nitrate, sodium nitrite, and potassium nitrite). Allergies. Digestive disturbances. Blurry vision, inability to concentrate. Moodiness, mental confusion, emotional outbursts, hyperactivity. Blood in urine. Kidney damage. Muscle weakness, muscle cramps, joint pains, lack of motor coordination. Chromosome aberrations and reproductive disorders. Birth defects.



Safe Substitutes for Common Toxic Chemicals

Not all chemicals are bad. Without chemicals such as hydrogen and oxygen, for example, there would be no way to make water, a vital ingredient in beer.

—DAVE BARRY (BORN 1947)

PULITZER PRIZE-WINNING AMERICAN AUTHOR AND HUMORIST

BETTER LIVING THROUGH CHEMISTRY?

“Better living through chemistry” is a long-lived variation of an advertising slogan that DuPont, the chemicals manufacturer, promoted from the 1930s to the 1980s. It persuaded consumers to discard safe, effective natural ingredients and replace them with synthetic garbage.

Each week, thousands of new chemicals are manufactured that—incredible as it sounds—aren’t tested for safety. In our everyday lives, we are constantly exposed to pesticides, fertilizers, and volatile organic compounds (VOCs, among which are formaldehyde, toluene, benzene, and styrene). VOCs are found in antifreeze, carpet, disinfectant, laundry detergent, polishes and varnish, shampoo, and even packaged foods. Toxic heavy metals (such as cadmium, lead, mercury and unbound, non-nutritional zinc) are in cleaners, cosmetics, paints and solvents. Detergents, heavy metals and solvents are in cleaners, soaps and personal care products. Acetone, benzene, ethylbenzene, formaldehyde, phthalate, styrene, toluene, xylene and heavy metals are in carpets. Most clothing, unless specified otherwise, is treated with fire retardant and fabric softener. Deodorizers and mothballs are made from dangerous petrochemicals. Fertilizers also contain petrochemicals. Pesticides, insecticides, fumigants, and fungicides are registered poisons with the

United States government. They are sprayed onto our crops and are embedded in cooking utensils and children’s toys. (For an extensive list, see Appendix F, “Dangerous Chemicals, Contaminants and Toxins.”)

People in industrialized countries, including North America, have been brainwashed to not only accept, but *demand*, the presence of dangerous chemicals in their daily lives. Harmful chemicals are around us everywhere we look and in some places that we cannot imagine: in the home and workplace, in schools and hospitals, in restaurants and gyms, in recreation areas and landfills. Sadly, these chemical contaminants pollute the environment while impairing the health—and in many cases, causing the death—of humans, animals, and plants.

Most of us cannot control or eliminate all of the dangerous chemicals used by industry. However, we *can* control what’s in our homes. We are told that every item in our home requires a different cleaning product. But cleaners contain the same basic ingredients: a solvent (to cut grease), and color and fragrance to presumably make the product more appealing. It’s time to stop making chemical manufacturers rich while we kill ourselves. Let’s simplify our lives by throwing out toxic cleaners and pest control substances that are taking up space. Instead of poisons, we can use the safe, effective, simple ingredients listed on the following pages.

Safe Substitutes for Everyday Toxic Chemicals

Cleaning (objects, humans & animals) / Personal Care / Deodorizing / Disinfecting / Pest Control

- ◆ **Dr. Bronner's Soaps.** Simple castile soaps (liquid and bar) are made from a few, very simple ingredients, with fatty acids added for extra moisture. The powerful, fragrant essential oils in some of the soaps are safe, smell good, and fight pathogens. The company, committed to holistic living, donates money and soap to many organizations, including the Organic Consumer's Association that's working to prevent Monsanto from spreading GMOs across the globe. One of the best commercial soaps, it's usually sold as a concentrate.
- ◆ **Bar Keeper's Friend®** (since 1882), *original powder only; the liquid has additives.* This powder's abrasive quality is from concentrated oxalic acid, occurring naturally in small amounts in tomatoes and spinach. (The gritty mouth feel from cooked spinach is from oxalic acid.) Rinse well; it leaves a slight residue.
- ◆ **Baking Soda / Sodium Bicarbonate / Bicarbonate of Soda.** Baking soda is short for the chemical compound *sodium hydrogen carbonate* (NaHCO_3), whose mineral form is *nahcolite*, which is part of the natural mineral *natron*. It's often found dissolved in mineral springs. Produced for commercial and everyday use, baking soda is in the form of a very fine, white alkaline powder. It's completely safe, both for cleaning and for internal use. (In the 1924 booklet, *Arm & Hammer Baking Soda Medical Uses*, Dr. Volney S. Cheney discussed using baking soda in his clinical practice to alkalize the system. His clients who ingested it internally either did not contract the flu or had only very mild cases.)
Baking soda is essential for many purposes. It's used in cooking as a leavening and crisping agent; to extinguish fires; to neutralize burns (it's a buffer of both acids and alkalis); and for medical purposes—ranging from alkalizing the system to removing splinters from the skin to alleviating the itching from poison oak and ivy, and insect bites. Baking soda removes odors from just about anything. It makes great toothpaste and deodorant. And it's a multi-purpose cleaner in every sense of the word.
- ◆ **Borax / Sodium Borate / Boric Acid.** Also given the longer chemical names, "sodium tetraborate decahydrate" or "disodium tetraborate." Borax refers to a group of related compounds of varied water content, all related to the essential dietary mineral boron. The naturally mined or collected mineral is borax. Processed purified borax is boric acid. They're interchangeable, functioning as insect killer, fungicide, herbicide, dessicant (removing moisture), clothing whitener, household cleaner, water softener, and preservative. Borax is sold as a laundry cleaner, but has dozens of uses and is well worth your time to do further research on all its uses.
- ◆ **Citrasolv®, concentrated cleaner & degreaser only.** Contains fewer additives than the company's other products, but is labeled combustible and eye/skin irritant. Orange essential oil is superb for stains.
- ◆ **Coffee (Liquid) and Coffee Grounds.** Save the leftover liquid and grounds from your coffee for pest control and cutting grease on hands and dishes. (For drinking, use organic.)
- ◆ **Colloidal Silver.** This kills one-celled, pathogenic microorganisms and is safe for internal and external use. (See Chapter 3 for details on why colloidal silver works, how to use it, and how to inexpensively make your own.) It's used with copper (below) for swimming pools and hot tubs.
- ◆ **Copper.** When used alone or with silver (above), copper is very effective in disinfecting and sanitizing hot tubs and swimming pools without harmful chemicals, and with no damage to the tub or pool. The ions from the silver and copper (sometimes with zinc added) kill pathogens and prevent algae growth. Ions can be generated passively (particles slaking off from bars) or electronically.
- ◆ **Distilled White Vinegar.** Cheap commercial distilled white vinegar is one of the simplest vinegars available. It's made from grain (usually corn), water, and yeast that ferments the mixture into alcohol. Then the alcohol is exposed to the air, and with the help of certain bacteria, it oxidizes and produces acetic acid. The acetic acid is then filtered and diluted to a minimum of 4% concentration, yielding the final product of white vinegar. Many companies make distilled white vinegar from grain that's left over from other food processing. While white vinegar is not healthy to eat (despite the food industry's claims to the contrary), it's great for cleaning. It removes mineral deposits from metal and is part of a recipe to eliminate pesticides from produce.

- ◆ **Diatomaceous Earth (DE).** The powdered remains of fossilized, single-celled *diatoms*. The sharp edges of DE don't hurt humans or animals when handled, but pierce the exoskeletons of insects. DE is used outdoors and indoors for pest control. Food grade DE can also be safely eaten to eliminate intestinal parasites. However, inhaling the fine DE powder can irritate and damage the lungs.
- ◆ **Enviro-One™.** This special formula colloidal micelle formula, designed for the chemically sensitive, is biodegradable, non-fuming, non-reactive, and fragrance free. Made from fatty acids, vegetable- and plant-based enzymes and minerals, organic alcohol, coconut oil, folic acid, vanilla, and de-ionized water, it cuts grease very well for all types of household cleaning. It's so safe, some people even use it as a mouthwash. Unlike even "pure" or simple homemade soaps, it doesn't leave any film whatsoever, so it's safe and effective for personal bathing and as a shampoo. Enviro-One™ also has impressive, proven germ-fighting abilities. It can be bought concentrated, and then diluted according to the purpose for which it's being used. See Appendix A under "Personal Care and Household Cleaning Products."
- ◆ **Essential Oils (EOs).** More than being pleasingly fragrant (as wonderful as that is), many essential oils have antibacterial, antiviral and antifungal properties. They work well for repelling insects and other pests, for cleaning and conditioning wood, disinfecting the air, and eliminating odors. If pure enough, EOs can be used on the skin to soothe and eliminate rashes and infections, and they can be inhaled to eliminate pathogens in the lungs. If you're putting the EO on your skin or inhaling it, make sure it hasn't been adulterated with solvents, additives and other synthetic chemicals, either during distillation or after extraction. Most EOs must be diluted in a carrier oil (such as coconut, avocado or jojoba oil) because they're too concentrated to put directly onto the skin or inhaled.
Genuine lavender can be expensive, but its botanical relative lavandin works fairly well as an alternative. CitraSolv® is a commercial orange oil that's used for laundry and cleaning, and is a great spot remover. However, it can be harsh, so be careful. (See listing for CitraSolv® on previous page.)
- ◆ **Grapefruit Seed Extract (GFSE).** Not to be confused with grapeseed extract (GSE), grapefruit seed extract functions as a potent germicide but is completely safe. It can be used as a preservative in face cream, deodorant and other personal care products. It's even taken internally to combat pathogens, when used in the correct amounts and dilutions. The best and safest brand is from NutraBio.
- ◆ **Hydrogen Peroxide (Food Grade, usually 3% solution).** This safe, inexpensive and versatile substance is antifungal, antiviral, and antibacterial—so sterile, in fact, that it's used by the semiconductor industry in their "clean rooms," which are up to 100 times cleaner than any hospital operating room. Hydrogen peroxide (H_2O_2) breaks down into water (H_2O) and oxygen (O_2). For years, industry has been using it for agriculture (for soaking seeds to make them sprout faster); aseptic packaging (for beverages that stay fresh for a long time in heavy cardboard containers); as a bleaching agent for food and food-related paper products (toilet paper, tissues, coffee filters, paper towels); as a dough conditioner (packaged bakery products); and much more. Use in spray bottle with filtered or spring water at a 3% dilution. It's completely safe, but avoid the eyes. Food grade H_2O_2 can also be ingested for therapeutic and medical purposes; see Chapter 3 for more information.
- ◆ **Sea Salt.** You'll be using this salt for its abrasive and astringent qualities, so it's okay to buy processed sea salt, which is bleached and contains mostly sodium minus its naturally occurring trace minerals. However, make sure the sea salt doesn't contain additives. Chemicals that allow it to be easily poured are quite toxic.
- ◆ **Xylitol.** This highly processed sugar alcohol (called a *polyol*) can be extracted from many types of plants, and is refined into crystals or a white powder. Most xylitol is manufactured in China from genetically engineered corn; so instead, buy xylitol made in the United States or Europe from birch bark. Xylitol has a fair track record for preventing bacteria from sticking to surfaces, so it's useful for dental needs and sinus washes. See Chapter 3 for more information.
- ◆ **Zeolite.** This is a naturally occurring mineral with a specially shaped molecule that traps toxins without leaching anything out. Zeolite is the main ingredient of kitty litter. It's also used to eliminate other odors and even for mopping up oil spills. Bought as chunks or powder, it can be hung in a mesh bag in a room or sprinkled onto carpets and spills. Zeolite chunks can be reused if refreshed in sunshine.

What To Use and How To Use It

Always test an unknown cleaner on a small area to make sure there's no undesirable reaction.

House and Garden

1. General Cleaning (Most)

- ◆ **Enviro-One™**. Use suggested dilution.
- ◆ **Dr. Bronner's Soaps, many kinds** (not detergent, which is somewhat caustic).

2. Bathroom—Toilet, Sink, Tile, Grout

- ◆ **Enviro-One™**. Use suggested dilution with abrasive plastic pads or stiff brush.
- ◆ **Bar Keeper's Friend®**, *original powder only*. Sprinkle on, scrub, wipe off.
- ◆ **Baking Soda (Bicarbonate of Soda or Sodium Bicarbonate)**. Mix into a paste, apply, rinse or wipe.
- ◆ **Citrasolv®**, *concentrated cleaner & degreaser only*. Dilute in water. Can be mixed with Enviro-One™.

3. Carpet

Carpets trap hair, dust and mold; they can never be totally cleaned. Throw rugs are more hygienic.

- ◆ **Powdered Zeolite or Baking Soda**. Sprinkle on carpet. Leave overnight, then clean with Enviro-One™.
- ◆ **Enviro-One™**. Use a new carpet shampooer that has never been contaminated with other cleaners or chemicals. (Dr. Bronner's soaps are an acceptable substitute, but they might be harder to rinse.)

4. Dishes and Pots

- ◆ **Enviro-One™**. For dishwasher, use suggested dilution. For washing by hand, let Enviro-One™ sit a little longer than you'd leave on commercial detergent. It doesn't foam much and you want to make sure that it has time to cut grease (and remove germs).
- ◆ **Baking Soda**. For pots that need scrubbing. Make into a paste with water.
- ◆ **Bar Keeper's Friend®**, *original powder only*. If using Bar Keeper's Friend® on exceptionally greasy pots, rinse well and then wash again with Enviro-One™, because Bar Keeper's® leaves a slight residue.
- ◆ **Coffee (Liquid) and Coffee Grounds**. This works very well for stubborn grease (which is why some artisan soapmakers use the liquid and grounds in their handmade products).

5. Drain Cleaner for Toilet, Sink and Bathtub

Lye (commercial drain cleaner) is a caustic solvent with a pH of about 13.0—highly alkaline, burning like acid. At best, the lye may "merely" spill onto your hands and cause severe chemical burns (which you should cover with something acidic, such as vinegar or lemon juice). At worst, it may suddenly spray into your face and mouth, causing blindness and death. A standard tool for the toilet is a plunger, which should be used first. Special, inexpensive plungers are made for the sink that look like small toilet plungers with much shorter handles.

- ◆ **Plunger**. Use first.
- ◆ **Cold or Hot or Boiling Water**. (If you have plastic piping, you can use hot but not boiling water.) Fill a bucket and pour water into sink or toilet. The force of the water should clear the pipe. Heat from hot or boiled water should loosen the grime. If necessary, use a plunger also.
- ◆ **Distilled White Vinegar and Baking Soda**. For sink, drain water if possible. Pour ½ cup of baking soda down the drain, and then ½ to 1 cup of vinegar. Mixture will bubble and foam, which helps loosen the material stuck in drain. Let mixture sit in the drain for 5 to 30 minutes. If a sink is clogged, cover drain with a drain plug to keep the reaction below the surface. If a toilet is clogged, do *not* cover. Add at least 1 gallon of water to flush. If necessary, use a plunger or snake (next). If a drain is still clogged, repeat. Use vinegar and baking soda with a garbage disposal too.
- ◆ **Snake**. This basic plumber's tool looks like a long, thick, flexible metal rope. Keep inserting the snake into the drain. When the snake gets stuck, turn it so it catches onto whatever is clogging the drain. Slowly pull out the snake, bringing the material with it.

6. Fabric Softening, Anti-Static Effects

Fabric softener was invented at the same time as petroleum-based synthetic fabrics to prevent static cling. Synthetics prevent the skin from breathing; wear natural fibers (cotton, silk, wool, bamboo, rayon, linen).

- ◆ **Distilled White Vinegar.** To soften fabric, add ¼ cup to the wash cycle. To eliminate static cling, add ¼ cup to the rinse cycle. Also to reduce static cling, allow clothes to completely or partially dry outside in the sun. Be aware that repeated use of vinegar can weaken fabric.

7. Floors—Marble, Granite, Tile, Wood, Bamboo, Linoleum, Laminate

- ◆ **Enviro-One™.** Use suggested dilution.
- ◆ **Dr. Bronner's Soaps.**
- ◆ **Citrasolv®,** concentrated cleaner & degreaser only.

8. Fruit and Vegetable Wash (to remove many pesticides, fungicides and herbicides, but not all)

- ◆ **Food Grade 3% Hydrogen Peroxide.** Spray onto produce, leave for 5 minutes, rinse with water.
- ◆ **Enviro-One™.** Buy it already diluted in a spray bottle, or you can dilute it yourself in your own bottle (the company provides dilution instructions). Spray, let sit for 5 minutes, rinse with water.
- ◆ **Baking Soda and Pure Water.** Dissolve 1 teaspoon of baking soda in 2 cups of pure water. Soak berries and similar produce for 10 minutes; denser fruits and vegetables require 15 minutes. Rinse.
- ◆ **Distilled White Vinegar and Pure Water.** Use 4 parts filtered or spring water to 1 part vinegar. Soak berries and similar produce for 10 minutes; denser fruits and vegetables require 15 minutes. Rinse.

9. Furniture Polish / Wood Conditioner

Mineral oil is a plastic, made from petroleum. Don't use it, especially not on wooden kitchen utensils.

- ◆ **Lemon Essential Oil.** A main ingredient in many commercial polishes, pure lemon oil can be bought in bulk. It conditions all wood (including wooden musical instruments). Simply put several drops on soft cloth and apply to wood. Reapply as often as needed.

10. Germ, Mold and Mildew Inhibitor

- ◆ **Enviro-One™.** Essential Oils may be added for fragrance and additional (optional) germicidal action.
- ◆ **Distilled White Vinegar.** Mix equal parts of vinegar and water in a spray bottle. If adding salt, use 2 tablespoons. Spray and rinse.
- ◆ **Essential Oils (EOs) in Water.** Combination: Clove Bud, Lemon, Cinnamon Bark, Eucalyptus, Rosemary. Optional: Oregano, Tea Tree, Thyme. Put several drops of EOs into water in spray bottle.
- ◆ **Dr. Bronner's Soaps: Lavender, Peppermint, Eucalyptus, Tea Tree (liquid).**
- ◆ **Borax.** For germicidal activity. Follow directions on box.

11. Glass Cleaner—Windows and Mirrors

Use a soft cloth made specifically for these surfaces to avoid streaking. Sometimes the cloth alone is sufficient.

- ◆ **Distilled White Vinegar and Water.** Apply equal parts of water and distilled white vinegar with a spray bottle, then dry with a soft cloth.

12. Laundry (and spot removal for stubborn stains on clothing and other fabrics)

- ◆ **Enviro-One™.** For cleaning. Use suggested dilution.
- ◆ **Citrasolv®,** concentrated cleaner & degreaser only. Also spot removal. Add Enviro-One™ if you like.
- ◆ **Baking Soda.** For very smelly clothes, soak in soda before rinsing. Can be used with other ingredients.
- ◆ **Borax.** For tough stains and smelly clothes.

13. Leather Cleaner and Odor Remover

- ◆ **Distilled White Vinegar.** Put more water than vinegar in spray bottle. Wipe clean with plain water.
- ◆ **Baking Soda.** Spread, leave on 30 minutes or even overnight to absorb odors, wipe clean.
- ◆ **Essential Oils.** Citrus oil to freshen. Coffee essential oil to remove odors. Apply more than once.

14. Metal Cleaner

- ◆ **Distilled White Vinegar.** Soak item, then rinse. Removes tarnish and makes items shiny.
- ◆ **Bar Keeper's Friend®**, original powder only.
- ◆ **Baking Soda (Bicarbonate of Soda or Sodium Bicarbonate).** Mix into a paste, apply, rinse or wipe. This works fairly well for silver.
- ◆ **Commercial Natural Preparation:** Earth Friendly Products® Silver Polish (works very well for silver, much better than baking soda).

15. Mothball Replacement

Solid chemical mothballs contain naphthalene, paradichlorobenzene and/or dichlorobenzene, and become gaseous when exposed to air. They're carcinogenic and toxic to the nervous system, liver and kidneys. Use herbs and essential oils. They confuse the female moths' scent mechanism so they don't lay their eggs in clothing. If there are no eggs, no larvae hatch to eat holes in the material. Before storing clothes, wash and dry thoroughly; moths are attracted to human scents. Clean storage containers and drawers. Put clothing in sealed containers. If clothes have already been stored in mothballs, wash them thoroughly before wearing them.

- ◆ **Cloves, Lavender, Spearmint, Rosemary, and Thyme.** For the dried herbs, mix 2 pounds of whole cloves with ½ pound each of the other herbs. Store in dresser or closet in cheesecloth bag(s) or cotton handkerchiefs tied at the ends. Other herbs to use include: Cinnamon bark. Citronella. Eucalyptus. Peppercorns (black), slightly crushed. Tansy. Cedar wood shavings may also help. You can refresh with essential oils of same.
- ◆ **Essential Oils (EOs) of the Above.** Put EOs into aromatherapy diffuser and let oils diffuse into the air. You can also refresh the dried herbs with the essential oils.
- ◆ **Neem Oil and Enviro-One™.** If you are already infested with wool moths, mix ¼ cup of neem oil with ½ gallon of water and a few ounces of Enviro-One™. Put into spray bottle and spray.

16. Odor Eliminator / Air Freshener / Clothing Deodorizer

Spraying clothes with hydrogen peroxide and/or Enviro-One™, letting the fabric dry in the sun, and repeating the process three or more times, will usually eliminate fabric softener from the cloth. Wash with baking soda, Enviro-One™, and essential oils or CitraSolv®. It can take several weeks or even months to remove the toxic odors.

- ◆ **Hydrogen Peroxide, 3%.** For clothing: Spray on clothing and hang in sun to dry. Repeat if necessary.
- ◆ **Enviro-One™.** For clothing: Spray concentrate on clothing, hang in sun to dry. Wash. Repeat if necessary.
- ◆ **Baking Soda.** For air: Leave in bowls to absorb odors. For clothing: Dust onto clothing, let it sit, launder.
- ◆ **Essential Oils.** For air or on clothing: Lavender. Citrus (all). Peppermint. Spearmint. Cedar. A mixture of these or similar oils. Put into spray bottle with mostly water and spray. Or use aromatherapy diffuser. For clothing: Put into spray bottle with mostly water and spray onto clothing.
- ◆ **Zeolite.** For air: Place chunks in mesh bag and hang. For clothing: put clothing and powder in plastic bag and seal for several days or weeks. Repeat if necessary.

17. Oven Cleaner

Use a steel wool or plastic scrub pad.

- ◆ **Bar Keeper's Friend®**, original powder only. Wet very lightly with water or a wet pad and scrub. Wash hands thoroughly after cleaning.
- ◆ **Salt and Baking Soda.** Mix equal parts of salt and soda. Add water to make paste, and scrub.
- ◆ **Enviro-One™.** Use suggested dilution. Spray on oven and let it sit for awhile.

18. Pest Control (Insects, Rodents, and Other Garden Pests)

- ◆ **Essential Oils (EOs): Cedar(wood). Citronella. Eucalyptus. Lemon. Lemongrass. Neem. Pennyroyal. Peppermint. Rue. Rosemary. Wintergreen.** Personal repellent for flying and crawling insects, including aphids, fleas, mosquitoes, and ticks. Mix 10 drops of each in about 4 oz. of water and spray it on skin. Or, apply undiluted EOs on countertops or wherever bugs walk.
- ◆ **Cinnamon and Clove Essential Oils.** Work well for ants and gnats. Apply undiluted to affected areas. For ants, mix equal parts of vinegar and water in spray bottle, add essential oil(s) and spray. You can also use cinnamon sticks and whole cloves.
- ◆ **Clove Essential Oil.** For rats and mice as well as gnats. Apply undiluted if possible.
- ◆ **Coffee Grounds.** For killing slugs, mix into soil. You can also spray a dilute solution of coffee onto the leaves of the plants.
- ◆ **Enviro-One™.** Use suggested dilution. Can be sprayed directly on plants and surrounding dirt to remove contaminants and unwanted garden pests, including bugs, but will not kill beneficial insects such as ladybugs. Plants, able to absorb nutrients more efficiently, grow bigger and faster.
- ◆ **Diatomaceous Earth.** Spread liberally on the ground outside against the walls of your home. Get food grade (not pool grade), so it's safe for pets in case they ingest it. Don't inhale it.
- ◆ **Borax.** Use in ways similar to diatomaceous earth.

19. Purification of Swimming Pools, Hot Tubs, Jacuzzis, etc.

- ◆ **Silver and Copper Ion Bars.** Sometimes they also contain zinc. The bars are usually passive, with ions naturally seeping into the water, which is cleaned. The ions can also be delivered via electricity (which provides more control of how many ions are flowing into the water, and the rate at which they are seeping into the water). Ozone is another great option (see Chapter 3), though more expensive.

20. Removing Skunk Odor from a Dog (and odors from other things as well)

A tomato juice bath (a common folk remedy) removes only some of the odor. This effective recipe, developed by materials engineer Paul Krebaum from Lisle, Ohio, removes oily sulfur compounds by oxidizing (adding oxygen to) them. Mix the ingredients below in a large open container; they foam profusely and could explode if they're inside a closed container. Rub the solution into the animal's fur, avoiding the eyes (the formula's safe, but will sting). When you no longer smell the skunk odor, rinse. If odor persists (as it might if it's from an old skunk attack), leave solution on longer, or apply twice.

- ◆ **Hydrogen Peroxide, 3%,** 1 quart.
- ◆ **Baking Soda (Bicarbonate of Soda or Sodium Bicarbonate),** ¼ cup.
- ◆ **Enviro-One™,** 1 to 2 teaspoons (diluted 10:1).

21. Weed Control (Safe Herbicides)

Weed control can be difficult, so it's tempting to use poisons. However, the harm to all living things from poison is almost incalculable, so it's worth using natural methods.

- ◆ **Boiling Water.** Plain boiling hot water poured directly on top of the weeds will kill some or all.
- ◆ **Distilled White Vinegar.** Poured directly on top of the weeds, the vinegar will kill some or all.
- ◆ **Propane Torch / Flamer / Weed Flamer / Weed Torch.** Portable, lightweight, long rod fueled by propane kills weeds if you're willing to do the labor. Passing a flame over a weed for only one-tenth of a second kills it. The weed will change from a glossy to a matte finish. It may not droop immediately, but will wilt and die within a few hours. A perennial weed will send up new shoots within a week, but additional treatments will deplete the stored energy in the roots and the weed will eventually die. Watering the soil a bit beforehand will conduct heat and kill some of the seedlings in the soil. Flamers are especially efficient for smaller areas (as compared to farmland or large-acre plots). Burning a younger plant is also more efficient than burning a more mature plant.

Personal Care

22. Bathing

- ◆ **Enviro-One™**. Use suggested dilution. As with all soaps, leave on 30 seconds to eliminate bacteria, wash off. If you want more suds, use a dispenser that adds air to the liquid so it foams. You can add a few drops of your favorite essential oil if you like.
- ◆ **Dr. Bronner's**. Use diluted. Comes in plain castile or with pure, great-smelling essential oils. Lavender, rose and almond are a bit milder than the peppermint, tea tree, eucalyptus or even the citrus.

23. Deodorant / Antiperspirant

Commercial products mask armpit odor with strong perfumes chemically related to petroleum. Antiperspirants inhibit sweating (a natural bodily function), which prevents wastes from exiting through the skin. Most contain toxic aluminum that clogs pores and prevents the sweating that causes odors—but still seeps into the lymph nodes and travels to the breasts. Aluminum is linked to breast cancer and is a neurotoxin (associated with Alzheimer's, Parkinson's and dementia). Safe deodorants are commercially available, but you can make your own inexpensively. Essential oils kill bacteria.

- ◆ **Hydrogen Peroxide, 3%**. Spray under arms as often as needed.
- ◆ **Colloidal Silver**. Spray under arms as often as needed.
- ◆ **Essential Oils, especially Lavender**. The oils should be organic, with nothing added. Add between 10 and 20 drops of oil to several ounces of water. Spray under arms.
- ◆ **Baking Soda (Bicarbonate of Soda) or Arrowroot**. Dust underarms with either powder. If you like, before applying, spray on essential oils, colloidal silver, or peroxide for additional protection.
- ◆ **Grapefruit Seed Extract**. Wet armpit. Apply two drops of GFSE under arms as often as needed.
- ◆ **Commercial Natural Preparation**: For Pit's Sake! (a G.B. Proudfoot's product).

24. Facial Cleanser

- ◆ **French Green Clay**. Make paste with pure water for a mask. Wait until it dries; rinse. This will draw out dirt and bacteria. (Re-moisturize with grapefruit essential oil added to refined coconut oil.)

25. Shampoo (Humans and Animals)

Unlike even soaps of pure glycerine or simple castille, Enviro-One™ doesn't leave residue on skin. It works great for human shampooing and on dogs, too. You can add a few drops of your favorite essential oil if you like.

- ◆ **Enviro-One™**. Use dilution suggested by company.

26. Shampoo for Fleas, Ticks and Head / Body Lice

- ◆ **Enviro-One™**. Use suggested dilution. Kills harmful insects (ticks, fleas and lice) by suffocating them. Leave on hair and body for 30 minutes, then rinse. Comb hair with fine tooth comb to eliminate eggs. Reapply if needed. This is the only product I can recommend for this purpose.

27. Talcum Powder

The minerals that comprise talc are near deposits of carcinogenic asbestos, and become contaminated.

- ◆ **Arrowroot or Baking Soda (Bicarbonate of Soda)**.

28. Teeth and Gum Care (tooth powder, toothpaste and mouthwash)

All these ingredients can be used interchangeably for the teeth and gums. For tooth paste instead of powder, add coconut oil (which has antimicrobial properties) to bind the ingredients together. For a mouthwash, use aloe vera liquid. Some ingredients may work better for you than others; experiment.

- ◆ **Essential oils**: Clove. Cinnamon bark. Spearmint. Peppermint. Tea tree. White oak bark (in powder form too). Grapefruit seed extract. Aloe vera (gel or liquid). As powders or granules: Baking soda. Sea salt. Xylitol. By itself: Colloidal silver. To increase gum circulation: Cayenne (small amount).
- ◆ **Commercial Natural Preparations, Toothpaste**: Coral White®. Pearlie White® (remineralizes teeth).
- ◆ **Commercial Natural Preparations, Gums**: Tooth & Gums Tonic®. Peri-Gum®.



Create a Detox Footbath for Ten Dollars

Be sure you put your feet in the right place, then stand firm.

—ABRAHAM LINCOLN, 16TH PRESIDENT OF THE UNITED STATES (1809–1865)

History and Theory of How This Works

The detoxification footbath was developed circa 1900 in London. It consisted of two tanks, each containing water and an electrode, into which a foot was placed. Very mild current passed through the body, allowing metals and other substances to be drawn out of the body via osmosis.

Modern commercial footbaths contain a single chamber that accommodates both feet and both (positively and negatively charged) electrodes. The water tends to become a bit darker during the soak. Aficionados report feeling better, citing the change in water color as proof that the footbath works. Detractors point out that the tint of the water changes after the electrodes are turned on, without anyone ever placing their feet in the chamber!

The detractors are correct. Changes in water color are due to rust or other metallic accumulations on the iron electrodes. These gadgets are outrageously overpriced (some at over two thousand dollars), accompanied by marketing hype to justify the cost. Nevertheless, the basic premise is sound—drawing toxins from the body via a non-invasive electrical charge—as long as there are two separate tubs for the feet and one electrode is in each tub. Most toxins have a positive charge. Positively-charged toxins are attracted to a negatively-charged electrode. In the following setup, users find that if the water does change color, it's the negatively-charged side that becomes discolored while the positively-charged side does not.

Supplies

You can make your own effective apparatus for about ten dollars with simple parts bought from a basic electronics store or hardware store.

- ◆ Two shallow plastic bins the size of shoeboxes, each large enough to hold a single foot. Make sure they are plastic and not metal. (The 9-volt battery you'll use isn't strong, but it still might cause an unpleasant jolt if you use a metal pan rather than plastic.)
- ◆ Filtered or distilled water.
- ◆ Celtic, sea, Dead Sea, or Epsom salt.
- ◆ Two stainless steel spoons, bent in a certain way (see photo, next page).
- ◆ One 9-volt battery.
- ◆ Two “alligator” clips of different colors. One wire will connect to the positive side of the battery, and the other wire will connect to the negative side of the battery (see photo, next page). In the United States it's customary to use black and red, but any two colors can be used as long as you dedicate one alligator clip to the POSITIVE side of the battery and the LEFT foot, and the other alligator clip to the NEGATIVE side of the battery and the RIGHT foot. For this discussion, I will use the colors red and black.

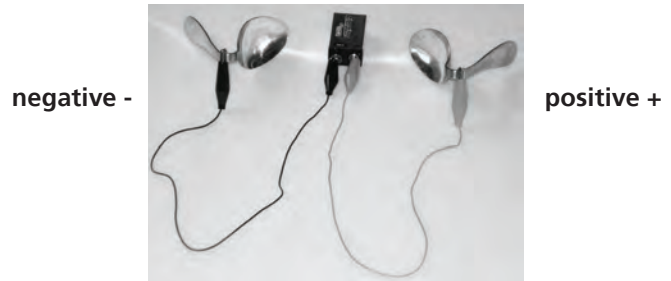
Directions

1. *Water.* Put at least 2–3 inches of warm filtered or distilled water into each bucket.
2. *Salt.* Mineral salts enable water to conduct electricity more easily. If you use distilled water, add a half a teaspoon or a teaspoon of Celtic salt, Dead Sea salt, plain sea salt without additives, or Epsom salt into each side and stir. If you're very sensitive, you'll need just a little salt or no salt. If the water already contains a fair amount of minerals, you won't need to add salt.
3. *Bend the Spoons.* One good way for the spoons to act as electrodes is to bend them (photo, opposite) so that each one hangs over the side of a bin (photo, below). This allows you to connect an alligator clip to the stem of the spoon with the bowl of the spoon in the water.
4. *Wire the Spoons.*
Attach the RED (POSITIVE) alligator clip to the bowl of the LEFT-hand spoon.
Attach the BLACK (NEGATIVE) alligator clip to the bowl of the RIGHT-hand spoon.
(We are assuming that the wires are red and black, but you can use any color wires as long as the POSITIVE terminal is for the LEFT foot and the NEGATIVE terminal is for the RIGHT foot.)
Hang one spoon over each bin. You may bend the spoons so that the bowls reach lower into the water, which will allow you to use less water.
5. *The Footbath.* Put one bare foot in each spoon-filled tub *before* you connect the alligator clips to the battery.
RIGHT foot = NEGATIVE (BLACK) side.
LEFT foot = POSITIVE (RED) side.



Viewed as though you were looking at someone else doing a footbath.

6. *Wire the Battery.* On the 9-volt battery:
Attach the other end of the RED alligator clip to the POSITIVE (+) terminal. POSITIVE will go with the LEFT side.
Attach the other end of the BLACK alligator clip to the NEGATIVE (-) terminal. NEGATIVE will go with the RIGHT side.
Your footbath is now charged. Leave your feet in for 30 minutes to one hour.



Viewed as though you were looking at someone else doing a footbath.

7. *Change the Spoons Periodically.* Most so-called stainless steel contains some nickel and chromium (not in their bioavailable mineral forms, but in their toxic metallic forms). After a period of being electrolyzed in water, the stainless steel will degrade, even if only a bit, which will allow metallic ions to disperse into the water where they can be absorbed through the feet.
Some types of stainless steel are safer than others. T304 alloy stainless steel (an industrial term for grading stainless) is more susceptible to erosion than the safer T316, which is created to withstand corrosion in saltwater environments.
Change the spoons periodically, especially if you are doing many footbaths.
Instead of spoons, you can use carbon electrodes.
8. *Use As Often As Needed.* You may feel areas of your feet (especially the top or instep) sting and itch a bit, but this is normal. If you're too uncomfortable, reduce the amount of salt in the water, the amount of time you spend soaking your feet, and/or the amount of water.
This footbath helps eliminate Lyme and mold toxins, heavy metals, and some chemicals. People with certain infections, fibromyalgia, rheumatoid arthritis, and some neurological conditions report feeling better after a series of footbaths. Soak your feet at least once a day. Some people can handle only 5 minutes at first, and gradually increase the time. The water in the left side especially may change color slightly as toxins are released.



Recent Studies on the Dangers of Harmful Electromagnetic Fields (EMF)

Technology can be our best friend, and technology can also be the biggest party pooper of our lives. It interrupts our own story, interrupts our ability to have a thought or a daydream, to imagine something wonderful, because we're too busy bridging the walk from the cafeteria back to the office on the cell phone.

—STEVEN SPIELBERG, FILM DIRECTOR (BORN DECEMBER 18, 1947)

Electromagnetic (EM) fields surround us all the time. The natural diffuse EM radiation emitted by the sun is very different from the human-made, concentrated, EM radiation from cell phones, TV and radio transmitters, computers, WiFi, tablets, smart meters, microwave ovens, kitchen appliances, vacuum cleaners, air conditioners, airport scanners, and anything with an engine (to name just a few items in our technological age). These electronics break the chemical bonds in our DNA, leading to almost unlimited malfunctions in all systems: immune, nervous, hormones, respiratory, circulatory, digestive. There's no part of the body that doesn't react negatively to these harmful electromagnetic fields, which are sometimes referred to as *EMFs*, *electrosmog*, or *electropollution*.

Despite copious documentation showing the damage caused by electropollution, many governments, their agencies, and the telecommunications industry deny that harm exists. Corporate media typically lies, insisting that there's nothing to worry about and implying that anyone who's concerned is being paranoid, irrational, and idiotic. However, at the University of Washington, Dr. Henry Lai's data on radio frequency studies shows a

very different story. In the studies that are *not* funded by the telecommunications industry, 70% clearly indicate the harm of WiFi (with 30% showing “no effect”); while in the studies that *are* funded by the telecommunications industry, only 32% show harm (with the “no effect” category spiking to 68%). In June 2015, investigative journalist Norm Alster at the Harvard University Center for Ethics issued a paper called “Captured Agency: How the Federal Communications Commission Is Dominated by the Industries It Presumably Regulates.” And some readers might be surprised to learn that as long ago as 1971, the United States Navy commissioned a compilation of over two thousand studies on the effects of microwaves and radio frequencies on living systems. Even then, there was grave concern about how various human-made EM fields could (and did) negatively affect humans and animals.

Here is a very small sample of studies on the dangers of electrosmog. New research is constantly being published (despite the resistance of those who'd like to conceal it), so keep current. In the meantime, see Chapter 1 for more details on how and why EMF is harmful, and be sure to use EMF protection (see Appendices A and C).

2018

“Radiofrequency Radiation-Related Cancer: Assessing Causation in the Occupational/Military Setting.” Peleg M, Nativ O, Richter ED. *Environmental Research*, May 2018, Volume 163, 123–133.

[*Highlights:* Exposures incurred in military settings have significantly increased the risk of hematolymphatic cancers. The ICNIRP radiation limits don’t guarantee human safety in either occupational or military settings, and the limits should be replaced by honest guidelines based on what we know about human biology. These results confirm findings of brain tumors in cellphone users and “make a coherent case for a cause-effect relationship. We are unable to find alternative explanations. We endorse [researcher] Hardell’s call for classifying this exposure as an IARC group 1 carcinogen and for updating the exposure standards.”]

“Extremely Low Frequency Electromagnetic Fields Impair the Cognitive and Motor Abilities of Honey Bees.” Shepherd S, Lima MAP, Oliveira EE, Sharkh SM, Jackson CW, Newland PL. *Scientific Reports*, May 21, 2018, 8(1):7932.

“Characteristics of perceived electromagnetic hypersensitivity in the general population.” Gruber MJ, Palmquist E, Nordin S. *Scandinavian Journal of Psychology*, May 9, 2018.

“A proposed explanation for thunderstorm asthma and leukemia risk near high-voltage power lines: a supported hypothesis.” Redmayne M. *Electromagnetic Biology and Medicine*, April 30, 2018; 1–9.

“Occupational exposure to extremely low-frequency magnetic fields and the risk of ALS: A systematic review and meta-analysis.” Huss A, Peters S, Vermeulen R. *Bioelectromagnetics*, February 2018; 39(2):156–163.

[*From Abstract:* “We observed an increased risk of ALS in workers occupationally exposed to ELF-MF.”]

“Report of Final Results Regarding Brain and Heart Tumors in Sprague-Dawley Rats Exposed from Prenatal Life Until Natural Death to Mobile Phone Radiofrequency Field Representative of a 1.8 GSM Base Station Environmental Emission.” Falcioni L, Bua L, Tibaldi E, Lauriola M, De Angelis L, Gnudi F, Mandrioli D, Manservigi M, Manservigi F, Manzoli I, Menghetti I, Montella R, Panzacchi S, Sgargi D, Strollo V, Vornoli A, Belpoggi F. *Environmental Research*, March 2018.

2017

“Evaluation of Mobile Phone and Cordless Phone Use and Glioma Risk Using the Bradford Hill Viewpoints from 1965 on Association and Causation.” Carlberg M, Hardell L. *BioMedical Research International*, Article ID 9218486, March 16, 2017.

“Case-control study on occupational exposure to extremely low-frequency electromagnetic fields and glioma risk.” Carlberg M, Koppel T, Ahonen M, Hardell L. *American Journal of Industrial Medicine*, May 2017;60(5):494–503.

“Probabilistic Multiple-Bias Modeling Applied to the Canadian Data From the Interphone Study of Mobile Phone Use and Risk of Glioma, Meningioma, Acoustic Neuroma, and Parotid Gland Tumors.” Momoli F, Siemiatycki J, McBride ML, Parent MÉ, Richardson L, Bedard D, Platt R, Vrijheid M, Cardis E, Krewski D. *American Journal of Epidemiology*, October 1, 2017, 1;186 (7), 885–893.

“Evaluation of Mobile Phone and Cordless Phone Use and Glioma Risk Using the Bradford Hill Viewpoints from 1965 on Association or Causation.” Carlberg M, Hardell L. *BioMed Research International* 2017:9218486.

[*From Abstract:* “RF radiation should be regarded as a human carcinogen causing glioma.”]

“Acute effects of radiofrequency electromagnetic field emitted by mobile phone on brain function.” Zhang J, Sumich A, Wang GY. *July 2017*;38(5):329–338.

“Mobile Phone Use and The Risk of Headache: A Systematic Review and Meta-analysis of Cross-sectional Studies.” Wang J, Su H, Xie W, Yu S. *Scientific Reports*, October 3, 2017, Volume 7, Article number: 12595 .

“High Frequency Radiation at Stockholm Old Town.” Hardell L, Carlberg M, Koppel T, Hedendahl L. *Molecular and Clinical Oncology*, April 2017, 6(4): 462–476.

“Influence of extremely low frequency magnetic fields on Ca²⁺ signaling and double messenger system in mice hippocampus and reversal function of procyanidins extracted from lotus seedpod.” Zhang H, Dai Y, Cheng Y, He Y, Manyakara Z, Duan Y, Sun G, Sun X. *Bioelectromagnetics*, September 2017;38(6):436–446.

[*From Abstract:* “ELF-MF exposure decreased the level of brain-derived neurotrophic factor (BDNF), which played a key role in hippocampal neuronal cell death.” The authors then propose a solution: “However, oral administration of procyanidins from lotus seedpod (LSPCs) (especially 90 mg kg⁻¹) significantly recovered these changes, and nearly reached normal levels.”] Related to the above study are three other articles on the neuroprotective and antioxidant effects of procyanidins obtained from the lotus seed pod:

- ◆ “Extremely low frequency electromagnetic field exposure causes cognitive impairment associated with alteration of the glutamate level, MAPK pathway activation and decreased CREB phosphorylation in mice hippocampus: reversal by procyanidins extracted from the lotus seedpod.” Duan Y, Wang Z, Zhang H, He Y, Fan R, Cheng Y, Sun G, Sun X. *Food and Function*, September 2014; 5(9):2289–2297.

- ◆ “Neuroprotective effects of lotus seedpod procyanidins on extremely low frequency electromagnetic field-induced neurotoxicity in primary cultured hippocampal neurons.” Yin C, Luo X, Duan Y, Duan W, Zhang H, He Y, Sun G, Sun X. *Biomedicine and Pharmacotherapy*, August 1026;82:628–639. [Oxidative stress—purposely induced to test for the neuroprotective qualities of lotus seed pods—was induced by ELF exposure, which appears incidental to the theme of the study.]
- ◆ “Chemoprotective action of lotus seedpod procyanidins on oxidative stress in mice induced by extremely low-frequency electromagnetic field exposure.” Luo X, Chen M, Duan Y, Duan W, Zhang H, He Y, Yin C, Sun G, Sun X. *Biomedicine and Pharmacotherapy*, August 2016;82:640–648. [Oxidative stress—purposely induced to test for the chemoprotective qualities of lotus seed pods—was induced by ELF exposure, which appears incidental to the theme of the study.]

“Cardiovascular Disease: Time to Identify Emerging Environmental Risk Factors.” Bandara P, Weller S. *European Journal of Preventative Cardiology*, 2017.

“The ameliorative effect of gallic acid on pancreas lesions induced by 2.45 GHz electromagnetic radiation (Wi-Fi) in young rats.” Senay Topsakal, Ozlem Ozmen, Ekrem Cicek, Selcuk Comlekci. *Journal of Radiation Research and Applied Sciences*, July 2017, Volume 10, Issue 3, 233–240.

[The study showed that “serum glucose, lipase and amylase levels were higher in the EMR group, and the results were significant, indicating both endocrine and exocrine cell damage.” Note that the frequency of 2.45 GHz is used for many types of cellular communications equipment.]

“Exposure to Magnetic Field Non-Ionizing Radiation and the Risk of Miscarriage: A Prospective Cohort Study.” Li DK, Chen H, Ferber JR, Odouli R, Quesenberry C. *Scientific Reports* 7, December 13, 2017, Article number 17541.

“Mobile phone use and risk for intracranial tumors and salivary gland tumors—A meta-analysis.” Bortkiewicz A, Gadzicka E, Szymczak W. *International Journal of Occupational Medicine and Environmental Health* 2017;30(1):27–43. [Polish]

“Extremely low-frequency electromagnetic field exposure enhances inflammatory response and inhibits effect of antioxidant in RAW 264.7 cells.” Kim SJ, Jang YW, Hyung KE, Lee DK, Hyun KH, Jeong SH, Min KH, Kang W, Jeong JH, Park SY, Hwang KW. *Bioelectromagnetics*, July 2017; 38(5):374–385.

[From Abstract: The authors stated that even in the present of the potent antioxidant resveratrol, “an ELF-EMF amplifies inflammatory responses through enhanced macrophage activation and can decrease the effectiveness of antioxidants.”]

“Effects of acute and chronic exposure to both 900 MHz and 2100 MHz electromagnetic radiation on glutamate receptor signaling pathway.” Gökçek-Saraç Ç, Er H, Kencebay Manas C, Kantar Gök D, Özen S, Derin N. *International Journal of Radiation Biology*, September 2017; 93(9):980–989.

2016

“NTP Toxicology and Carcinogenicity Studies of Cell Phone Radiofrequency Radiation,” National Toxicology Program, National Institute of Environmental Health Sciences, June 8, 2016. BioEM2016 Meeting, Ghent, Belgium.

“The effects of radiofrequency electromagnetic radiation on sperm function.” Houston BJ, Nixon B, King BV, De Iulius GN, Aitken RJ. *Reproduction*, December 2016;152(6):R263–R276.

“Physiological and hygienic assessment of the impact of mobile phones with various radiation intensity on the functional state of brain of children and adolescents according to electroencephalographic data.” Vyatleva OA, Teksheva LM, Kurgansky AM. *Gigiena i Sanitariia* 2016;95(10):965–968. [Russian]

“Morphological structure of rat epiphysis exposed to electromagnetic radiation from communication devices.” Yashchenko SG, Rybalko. *Gigiena i Sanitariia* 2016; 95 (10):977–979. [Russian]

[From Abstract: Authors wrote that the pineal gland was strongly affected by “exposure to electromagnetic radiation from personal computers and mobile phones,” and that “electron microscopy revealed signs of degeneration of dark and light pinealocytes” along with “signs of aging.”]

2015

“Mobile phone radiation causes brain tumors and should be classified as a probable human carcinogen.” Morgan LL, Miller AB, Sasco A, Davis DL. *International Journal of Oncology*, 46(5): 1865–1871.

“Effects of 2.4 GHz radiofrequency radiation emitted from Wi-Fi equipment on microRNA expression in brain tissue.” Dasdag S, Akdag MZ, Erdal ME, Erdal N, Ay OI, Ay ME, Yilmaz SG, Tasdelen B, Yegin K. *International Journal of Radiation Biology*, July 2015;91(7): 555–561.

[From Abstract: “Long-term exposure of 2.4 GHz RF may lead to adverse effects such as neurodegenerative diseases originated from the alteration of some miRNA expression.”]

“Tumor Promotion by Exposure to Radiofrequency Electromagnetic Fields Below Exposure Limits for Humans.” Lerchl A, Klose M, Grote K, Wilhelm AF, Spathmann O, Fiedler T, Streckert J, Hansen V, Clemens M. *Biochemical and Biophysical Research Communications*, April 17, 2015, Volume 459, Issue 4.

2014

“Decreased Survival of Glioma Patients With Astrocytoma Grade IV (Glioblastoma Multiforme) Associated With Long-Term Use of Mobile and Cordless Phones.” Carlberg M, Hardell L. *Environmental Research and Public Health*, 2014, 11 (10), 10790-10805.

“Mobile Phone Use and Brain Tumours in the CERENAT Case-Control Study.” Coureau G, Bouvier G, Lebailly P, Fabbro-Peray P, Gruber A, Leffondre K, Guillemin JS, Loiseau H, Mathoulin-Pelissier S, Salamon R, Baldi I. *British Medical Journal, Occupation and Environmental Medicine*, July 2014, 71 (7); 514–522.

2013

“Use of mobile phones and cordless phones is associated with increased risk for glioma and acoustic neuroma.” Hardell L, Carlberg M, Hansson Mild K. *Pathophysiology*, April 2013; 20(2):85–110.

[From Abstract: “The IARC [International Agency for Research on Cancer] carcinogenic classification does not seem to have had any significant impact on governments’ perceptions of their responsibilities to protect public health from this widespread source of radiation.”]

“Multi-Focal Breast Cancer in Young Women with Prolonged Contact Between Their Breasts and Their Cell Phones.” West JG, Kapoor NS, Liao SY, Chen JW, Bailey L, Nagourney RA. *Case Reports in Medicine*, August 19, 2013, Article ID 354682.

2012

“Health implications of long-term exposure to electrosmog.” Karl Hecht, 2012; translated from German to English in 2016. [This report, which cited 878 studies from 1960–1997 that discussed the negative effects of EMFs, was suppressed by the German government as soon as it was published.]

Samuel Milham. *Dirty Electricity: Electrification and the Diseases of Civilization*, 2nd Ed. (Bloomington, Indiana: iUniverse, 2012). **Book**

“The Effects of UV Emission from CFL Exposure on Human Dermal Fibroblasts and Keratinocytes in Vitro.” Mironava T, Hadjiargyrou M, Simon M, Rafailovich MH. *Photochemistry and Photobiology*, November-December 2012; 88(6):1497–1506.

[From Abstract: “Cells exposed to CFLs exhibited a decrease in the proliferation rate, a significant increase in the production of reactive oxygen species, and a decrease in their ability to contract collagen. Measurements of UV emissions from these bulbs found significant levels of UVC and UVA (mercury [Hg] emission lines), which appeared to originate from cracks in the phosphor coatings, present in all bulbs studied. The response of the cells to the CFLs was consistent with damage from UV radiation.”]

2011

“Re-analysis of risk of glioma in relation to global telephone use: comparison with the Results of the Interphone international Case-control Study.” Hardell L, Carlberg M, Hansson Mild K. *International Journal of Epidemiology*, Volume 40, Issue 4, August 1, 2011, 1126–1128.

“Pooled Analysis of Case-Control Studies on Malignant Brain Tumours and the Use of Mobile and Cordless Phones Including Living and Deceased Subjects.” Hardell L, Carlberg M, Hansson Mild K. *International Journal of Oncology*, February 2011, 38(5):1465–1474.

“Adult mortality from leukemia, brain cancer, amyotrophic lateral sclerosis and magnetic fields from power lines: a case-control study in Brazil.” Marcilio I, Gouveia N, Pereira Filho ML, Kheifets L. *Revista Brasileira de Epidemiologia [Brazilian Journal of Epidemiology]*, December 2011; 14(4):580–588.

[From Abstract: “Our findings are suggestive of a higher risk for leukemia among subjects living closer to transmission lines, and for those living at homes with higher calculated magnetic fields, although the risk was limited to lower voltage lines.”]

“Occupational and residential exposure to electromagnetic fields and risk of brain tumors in adults: a case-control study in Gironde, France.” Baldi I, Coureau G, Jaffré A, Gruber A, Ducamp S, Provost D, Lebailly P, Vital A, Loiseau H, Salamon R. *International Journal of Cancer*, September 2011; 129(6):1477–1484.

[From Abstract: “These data suggest that occupational or residential exposure to ELF may play a role in the occurrence of meningioma.”]

2010

“Power-frequency magnetic fields and childhood brain tumors: a case-control study in Japan.” Saito T, Nitta H, Kubo O, Yamamoto S, Yamaguchi N, Akiba S, Honda Y, Hagihara J, Isaka K, Ojima T, Nakamura Y, Mizoue T, Ito S, Eboshida A, Yamazaki S, Sokejima S, Kurokawa Y, Kabuto M. *Journal of Epidemiology*, 20(1):54–61

[From Abstract: “A positive association was found between high-level exposure-above 0.4 microT-and the risk of brain tumors.”]

“Oxidative stress, melatonin level, and sleep insufficiency among electronic equipment repairers.” El-Helaly M, Abu-Hashem E. *Indian Journal of Occupational and Environmental Medicine*, September 2010; 14(3):66–70.

[From Abstract: “The electronic equipment repairers, exposed to ELF-EMF, are at a risk of oxidative stress and sleep insufficiency, which could be explained by lower plasma melatonin levels and higher MDA [malondialdehyde] levels. Health education about the hazards of ELF-EMF, shortening of exposure time per day, and taking antioxidant vitamins should be done to ameliorate the oxidative effect of EMF on those workers.”]

Non-Thermal Effects and Mechanisms of Interaction Between Electromagnetic Fields and Living Matter. ICEMS Monograph, Ramazzini Institute, edited by Livio Giuliani and Morando Soffritti. European Journal of Oncology Library, Bologna, Italy, Volume 5, 2010. **Book**

Partial contents:

“Weak low-frequency electromagnetic fields are biologically interactive,” A.R. Lihoff.

“Oxidative stress-induced biological damage by low-level EMFs: mechanisms of free radical pair electron spin-polarization and biochemical amplification,” C.D. Georgiou.

“Genotoxic properties of extremely low frequency electromagnetic fields,” Udrou I, Giuliani L, Ieradi LA.

“Effects of microwave radiation upon the mammalian blood-brain barrier,” Salford LG, Nittby H, Brun A, Eberhardt J, Malmgren L, Persson BRR.

“Carcinogenic risks in workers exposed to radiofrequency and microwave radiation,” Szmigielski S.

“Provocation study using heart rate variability shows microwave radiation from 2.4 GHz cordless phone affects autonomic nervous system.” Havas M, Marrongelle J, Pollner B, Kelley E, Rees CRG, Tully L.

“Symptoms, personality traits, and stress in people with mobile phone-related symptoms and electromagnetic hypersensitivity.” Johansson A, Nordin S, Heiden M, Sandstrom M. *Journal of Psychosomatic Research*, January 2010; 68(1):37–45.

2009

“Electromagnetic fields and DNA damage.” Phillips JL, Singh NP, Lai H. *Pathophysiology* 2009, 16(2–3): 79–88.

“Most cancer in firefighters is due to radio-frequency radiation exposure not inhaled carcinogens.” Milham Samuel. *Medical Hypotheses*, June 2009; 73(5):788–789.

[From Abstract: “Firefighters . . . [are at] increased risk of . . . leukemia, multiple myeloma, non-Hodgkin’s lymphoma, male breast cancer, malignant melanoma, and cancers of the brain, stomach, colon, rectum, prostate, urinary bladder, testes, and thyroid. Firefighters are exposed to a long list of recognized or probable carcinogens in combustion products and the presumed route of exposure to these carcinogens is by inhalation. Curiously, respiratory system cancers and diseases are usually not increased in firefighters as they are in workers exposed to known inhaled carcinogens. The list of cancers . . . strongly overlaps the list of cancers at increased risk in workers exposed to electromagnetic fields (EMF) and radiofrequency radiation (RFR). Firefighters have increased exposure to RFR in the course of their work, from the mobile two-way radio communications devices which they routinely use while fighting fires, and at times from firehouse and fire vehicle radio transmitters. . . . some of the increased cancer risk in firefighters is . . . therefore preventable.”]

2007

“Acute childhood leukemias and exposure to magnetic fields generated by high voltage overhead power lines—a risk factor in Iran.” A.A. Feizi and M.A. Arabi, *Asian Pacific Journal of Cancer Prevention*, January-March;8(1):69–72.

2006

“Pooled Analysis of Two Case-Control Studies on Use of Cellular and Cordless Telephones and the Risk for Malignant Brain Tumours Diagnosed in 1997–2003.” Hardell L, Carlberg M, Hansson Mild K. *International Archives of Occupational and Environmental Health*, September 2006, Volume 79, Issue 8, 630–639.

“Case-control study of the association between the use of cellular and cordless telephones and malignant brain tumors diagnosed during 2000–2003.” Hardell L, Carlberg M, Hansson Mild K. *Environmental Research*, February 2006; 100(2):232–241.

2005

“50-Hz extremely low frequency electromagnetic fields enhance cell proliferation and DNA damage: possible involvement of a redox mechanism.” Wolf F, Torsello A, Tedesco B, Fasanella S, Boninsegna A, D’Ascenzo M, Grassi C, Azzena GB, Cittadini A F. *Biochimica et Biophysica acta*, March 22, 2005; 1743(1-2):120–129. [Italian]

“Childhood leukemia and EMF: review of the epidemiologic evidence.” Kheifets L and Shimkhada R. *Bioelectromagnetics*; Supplement 7: S51–59.

[From Abstract: “Consistent associations from epidemiologic studies and two pooled analyses have been the basis for the classification of ELF as a possible carcinogen by the International Agency for Research on Cancer (IARC).”]

2004

“Report of the European Union’s REFLEX Project: Risk Evaluation of Potential Environmental Hazards from Low Frequency Electromagnetic Field Exposure Using Sensitive in vitro Methods, November 2004.”

[This \$3 million REFLEX study—which was instituted by the European Union to investigate the effects of the radiation in wireless technologies—was performed by 12 research groups in seven European nations. An in-depth report on the REFLEX project can be found in the on-line brochure, “Health and Electromagnetic Fields: EU-funded research into the Impacts of Electromagnetic Fields and Mobile Phones on Health,” published by the European Commission, February 29, 2008.]

2003

“Decreased survival for childhood leukemia in proximity to television towers.” Hocking B, Gordon I. *Archives of Environmental Health*, September 2003;58(9):560–564.

“Risk of childhood leukemia and environmental exposure to ELF electromagnetic fields.” Magnani C. *Giornale Italiano Di Medicina Del Lavoro Ed Ergonomia*, 25(3):373–375.

“Further Aspects on Cellular and Cordless Telephones and Brain Tumors.” Hardell L, Mild KH, Carlberg M. *International Journal of Oncology*, February 1, 2003, 399–407.

“Incidence of cancer in the vicinity of Korean AM radio transmitters.” Ha M, Lim HJ, Cho SH, Choi HD, Cho KY. *Archives of Environmental Health*, December 2003; 58(12):756–762.

[From Abstract: “Among the 11 high-power sites, there were significantly increased incidences of leukemia in two areas and of brain cancer in one area.”]

“Use of electric bedding devices and risk of breast cancer in African-American women.” Zhu K, Hunter S, Payne-Wilks K, Roland CL, Forbes DS. *American Journal of Epidemiology*, October 15, 2003;158(8):798–806.

[From Abstract: “The use of electric bedding devices may increase breast cancer risk in African-American women aged 20–64 years. Such an association might not vary substantially by menopausal status or estrogen receptor status.”]

“Follow-up of radio and telegraph operators with exposure to electromagnetic fields and risk of breast cancer.” Kliukiene J, Tynes T, Andersen A. *European Journal of Cancer Prevention*, August 2003; 12(4):301–307.

2002

“Induction of DNA strand breaks by intermittent exposure to extremely-low-frequency electromagnetic fields in human diploid fibroblasts.” Ivancsits S, Diem E, Pilger A, Rudiger HW, Jahn O. *Mutation Research*, 519 (1–2): 1–13.

“Melatonin and magnetic fields.” Karasek M, Lerchl A. *Neuro Endocrinology Letters*, April 2002;23 Supplement 1:84–87.

[From Abstract: “Extremely low frequency electric and magnetic fields generated by electric power distribution systems in the environment may be hazardous. . . . [We hypothesize] that the primary effects of electric and magnetic fields exposure is a reduction of melatonin synthesis which, in turn, may promote cancer growth.”]

“Residential exposure to power frequency magnetic field and sleep disorders among women in an urban community of northern Taiwan.” Li CY, Chen PC, Sung FC, Lin RS. *Sleep*, June 15, 2002;25(4):428–432.

“Does our electricity distribution system pose a serious risk to public health?” Henshaw DL. *Medical Hypotheses*, July 2002; 59(1):39–51.

[From Abstract: “Within 150m of powerlines, magnetic field exposures above 0.1 microT are postulated to result in 9000 excess cases of depression in adults and 60 cases of suicide. Electric field effects can mediate increased exposure to air pollution. Within 400m of powerlines, this may result annually in 200–400 excess cases of lung cancer, 2000–3000 cases of other illnesses associated with air pollution and 2–6 cases of childhood leukaemia. Seventeen cases of non-melanoma skin cancer might occur by exposure directly under powerlines.”]

2001

“Ionizing Radiation, Cellular Telephones and the Risk for Brain Tumours.” Hardell L, Hansson Mild K, Pahlson A, Hallquist A. *European Journal of Cancer Prevention*, January 2002, 10(6): 523–529.

“Mobile phones, heat shock proteins and cancer.” French PW, Penny R, Laurence JA, McKenzie DR. *Differentiation*, June 2001; 67(4–5): 93–97.

[From Abstract: “Upregulation of heat shock proteins (Hsps) is a normal defence response to a cellular stress. However, chronic expression of Hsps is known to induce or promote oncogenesis, metastasis and/or resistance to anticancer drugs. We propose that repeated exposure to mobile phone radiation acts as a repetitive stress leading to continuous expression of Hsps in exposed cells and tissues, which in turn affects their normal regulation, and cancer results.”]

2000

Mobile Telecommunications and Health, H.E.S.E-UK, 2000. This valuable and relatively unknown piece documents decades of early research on the genotoxicity of RF/microwave radiation. Ironically, this study by the ECOLOG Institute in Germany was funded by T-Mobile, a corporate giant of the Wireless Radiation Industry.

1997

“Cancer incidence near radio and television transmitters in Great Britain. I. Sutton Coldfield transmitter.” Dolk H, Shaddick G, Walls P, Grundy C, Thakrar B, Kleinschmidt I, Elliott P. *American Journal of Epidemiology*, January 1, 1997; 145(1):1–9.

[From Abstract: “The risk of adult leukemia within 2 km was 1.83 . . . and there was a significant decline in risk with distance from the transmitter . . .”]

1996

"Exploring the EMF-Melatonin Connection: A Review of the Possible Effects of 50/60-Hz Electric and Magnetic Fields on Melatonin Secretion." Lambrozo J, Touitou Y, Dab W. *International Journal of Occupational and Environmental Health*, January 1996 ;2(1):37-47.

"Cancer morbidity in subjects occupationally exposed to high frequency (radiofrequency and microwave) electromagnetic radiation." Szmigielski S. *The Science of the Total Environment*, February 2, 1996;180(1):9-17.

"Occupational Exposure to Electromagnetic Fields: The Case for Caution." Wilson BW, Stevens RG. *Applied Occupational and Environmental Hygiene* 1996; 11 (4): 299-306.

"Exposure to 50-Hz electric field and incidence of leukemia, brain tumors, and other cancers among French electric utility workers." Guénel P, Nicolau J, Imbernon E, Chevalier A, Goldberg M. *American Journal of Epidemiology*, December 15, 1996;144(12):1107-1021.

"Nonionizing electromagnetic fields and cancer: a review." *Oncology (Williston Park)*. Salvatore JR, Weitberg AB, Mehta S. April 1996;10(4):563-570; discussion 573-574, 577-578.

"Increased incidence of cancer in a cohort of office workers exposed to strong magnetic fields." Milham S Jr. *American Journal of Industrial Medicine*, December 1996; 30(6):702-704.

"Leukemia following occupational exposure to 60-Hz electric and magnetic fields among Ontario electric utility workers." Miller AB, To T, Agnew DA, Wall C, Green LM. *American Journal of Epidemiology*, July 15, 1996;144(2):150-160.

"Cancer in electrical workers: an analysis of cancer registrations in England, 1981-87." Fear NT, Roman E, Carpenter LM, Newton R, Bull D. *British Journal of Cancer*, April 1996; 73(7):935-939.

"Extra low frequency electric and magnetic fields in the bedplace of children diagnosed with leukaemia: a case-control study." Coghill RW, Steward J, Philips A. *European Journal of Cancer Prevention*, June 1996; 5(3):153-158.

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A powerful agent is the right word. Whenever we come upon one of those intensely right words the resulting effect is physical as well as spiritual, and electrically prompt.

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Note: Not every pathogen and disease in Chapter 5 (the Frequency Directory) is included here, because Chapter 5 is in itself an annotated index. However, this index does contain all of the primary (overview) categories in Chapter 5 and a few important health conditions listed in subheadings. For a complete directory of diseases, along with their frequencies, see Chapter 5.

Also note: A huge number of valuable books and research papers were used in the writing of this book. Space limitations made it impossible to list all the prominent authors and their publications. Therefore, the individuals listed here are limited to historical figures involved with Royal Rife, influential people in the modern Rife community who were quoted rather extensively, and selected scientists involved with medical research. No slight is intended of those who were omitted. You can always find these people and their work in the Endnotes and in References.

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About The Author



Writer, educator, artist and musician, Nenah Sylver has devoted her life to the exploration of healing on mental, emotional, physical, and spiritual levels. Her early training in music led to subsequent studies in spirituality and physics—all complementary paths to her lifelong passion, the science of frequency.

Starting as a young adult, Nenah worked for two decades as a singer-songwriter, playing piano and guitar. Her performances include New York City coffeehouses and clubs, and colleges nationwide. She wrote lyrics and music for two off-off-Broadway plays and won half a dozen songwriting awards. She also performed for Hospital Audiences, Inc., an organization that brings music to adults and children in hospitals, residential treatment centers, prisons, nursing homes, and educational facilities.

In 1996, Dr. Sylver received her PhD from the Union Institute & University in Transformational Psychology, a multi-disciplinary program of holistic health, psychology, and gender studies. For fifteen years, she had a private practice in body-mind psychotherapy based on the principles of psychiatrist and natural scientist Wilhelm Reich. Then, in what began as a quest for solutions to her own health issues, Nenah started researching Royal Rife and his inventions along with other electromedical therapies. Her extensive knowledge of safe and effective holistic protocols eventually coalesced into five editions of *The Rife Handbook*.

Among other publications, Dr. Sylver's writing credits in the areas of psychology, feminism, health and social change include *The New Internationalist*, *Off Our Backs*, *Beiträge zum Werk von Wilhelm Reich* ("Contributions to the Work of Wilhelm Reich"), and the anthologies *Journeys of the Heart: Perspectives on Intimacy in America* (Brunner-Mazel), *Glibquips: Funny Words by Funny Women* (Crossing Press), *Closer To Home: Bisexuality and Feminism* (Seal Press), *An Introduction to Women's Studies* (Simon & Schuster), *Transforming a Rape Culture* (Milkweed

Editions), *Women, Culture, and Society: Readings in Women's Studies* (Simon & Schuster), *Bullying: Beyond the Schoolyard* (Teatro V!da), and *Energy Medicine Technologies* (Inner Traditions). Her volume of poetry, *Birthing*, was published by Woman in the Moon Publications. She has been cited in *Utne Reader* and *The New Yorker*. In addition, she published a short story in an anthology, *Woman in the Window* (STARbooks Press), which she also illustrated with original water color paintings.

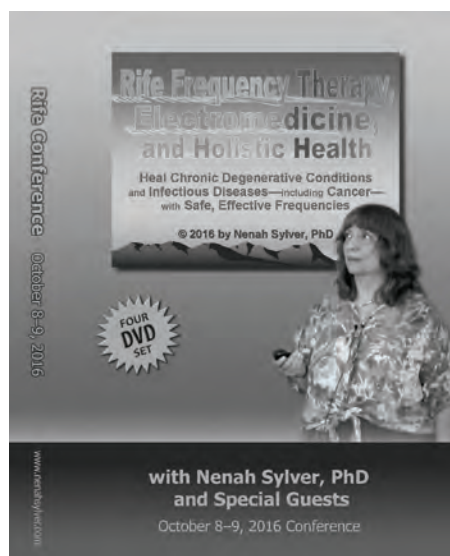
In the past few decades, Nenah Sylver has become well known for her writing in the health field. In addition to articles in *Natural Living Today* and *Natural Food & Farming*, "Toxic Products, Deceptive Labels" appeared in *Nexus*. Dr. Sylver's comprehensive book, *The Holistic Handbook of Sauna Therapy*, was published in 2004. In 2008, the two-part article "Healing with Electromedicine and Sound Therapies" (which was excerpted from Appendix C of *The Rife Handbook*) appeared in *Townsend Letter*. Portions of *The Rife Handbook* have been translated into German, Korean, and Polish.

The author has appeared on NBC-TV and on the Pacifica radio station WBAI-FM in New York City to discuss lifestyle choices. In other radio interviews she has talked about holistic health, complementary therapies, medical politics, electromedicine, and alternatives to toxic chemicals in the home. In 2016, she sponsored a conference in Tempe, Arizona, called "Rife Frequency Therapy, Electromedicine and Holistic Health," at which she presented for over six hours.

In addition to being a featured speaker at conferences, Nenah Sylver conducts educational seminars for small and large groups. Her latest project is the professional recording of three albums of original songs, on which she sings and plays piano, guitar, and bass. The expected release dates are throughout 2022. She lives with her human and canine family near Phoenix, Arizona in the United States.

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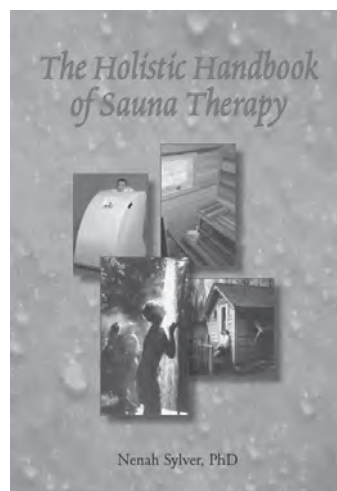
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Just two decades ago, Rife Therapy was virtually unknown. Gradually, hundreds of thousands of health seekers—from Germany to England, Indonesia to Australia, South Africa to the United States—began purchasing “rife” machines for themselves, their families, friends, and pets. This safe and effective technology, which delivers frequencies for healing via electrodes or an electromagnetic field, has been successfully used for cancer, neurological disorders, Lyme disease, gastrointestinal and respiratory ailments, childhood illnesses, and dozens of infectious diseases and degenerative conditions.

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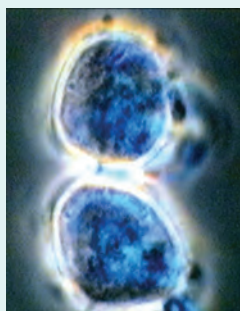


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—Steve Haltiwanger, MD, CCN
lecturer, researcher, and consultant in
psychiatry, Rife Therapy,
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An invaluable reference manual for complementary therapies and holistic living in general. The writing is superb. The information is well researched, logically presented, and accurate. . . . I am beyond impressed.

—Martha M. Grout, MD, MD(H)
Arizona Center for Advanced Medicine
Scottsdale, Arizona



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